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ABSTRACT

A pilot project of the Curative Workshop of Milwaukee which provided domestic work training for four trainable mentally retarded girls is described. School psychologists' reports of the four adolescent trainees are included, and recommendations for future programing are noted. Evaluation data reflect the girls' performance, amount of supervision, job satisfaction, relationship to employer and supervisor, motivation, and interpersonal competence. Almost half of the report consists of a selected annotated bibliography and a list of references relating to the education, training and placement of the mentally retarded. The appendixes present household job task descriptions, safety skills check lists, related inventories of visual and auditory skills, and the project evaluation form. (RD)

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A PILOT PROJECT

Number 8 February, 1970

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CURATIVE WORKSHOP OF MILWAUKEE

UNIVERSITY OF WISCONSIN

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PAID DOMESTIC WORK FOR THE TRAINABLE RETARDED GIRL: A PILOT PROJECT

Robert P. Overs, Ph.D., Elizabeth Holmes, and Diane McFatridge

February 1970

Research Department

CURATIVE WORKSHOP OF MILWAUKEE

in cooperation with the

WISCONSIN ASSOCIATION FOR RETARDED CHILDREN

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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Editors: Robert P. Overs, Ph.D.
Research Coordinator
Curative Workshop of Milwaukee

Ann B. Trotter, Ph.D.
Coordinator, Rehabilitation
Counselor, Education Program
University of Wisconsin - Milwaukee

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We are grateful to the Wisconsin Association for Retarded Children for contributing major support to this project. James Olson, Ph.D., Chairman, Department of Exceptional Education, University of Wisconsin-Milwaukee, Mrs. Sharon Taylor, Rehabilitation Counselor, Curative Workshop of Milwaukee and former teacher of the mentally retarded, and Mrs. Mary Ann Lee, teacher of trainable retardates, Milwauk Public School System, served as consultants. Mrs. Diane McFatridge, a teacher of the retarded in the Milwaukee Public Schools, served as training supervisor, and recruited and trained the cooperating housewives. Elizabeth Holmes coordinated the project, prepared the Chapter entitled "Brainstorming the Possibilities", prepared the review of the literature and the bibliographies, and recorded the conten of the staff conferences.

Members of the Curative Research Department Staff assisted in developing household job task lists. Mrs. Bernice Wolpert of the Jewish Vocational Service furnished names of potential housewife trainers. Participating housewife trainers were Mrs. Clarance Damaske, Mrs. James L. Olson, Mrs. Robert P. Overs, and Mrs. Dennis Schoenick. Dominic Bertucci, Supervisor of the Exceptional Education Department, Milwaukee Public Schools served as an administrative liason. James Callan of the Curative Research Department Staff carried out the follow-up interviewing. Carl Krampf and Douglas Schneck of the Curative Psychological Department administered tests to the girls. Curative Workshop furnished office space, equipment and bookkeeping assistance for the project.

CHAPTER I

INTRODUCTION

Although many projects have successfully demonstrated that educable mentally retarded individuals may be successfully rehabilitated in competitive employment, in general, rehabilitation of trainable mentally retarded individuals has been limited to work in institutions of which they are inmates and in sheltered workshops.

The experiences from this brief pilot project lead us to believe that employment in domestic work in the competitive labor market is possible if specialized training and selected placement are provided. Since there is a shortage of domestic workers at the wages which can be afforded by the large middle economic strata of our society, employment opportunities would be made available for trainable retarded girls who would otherwise remain unemployable and dependent on their families and various forms of public support

In addition to describing our project, we carried on a rather extensive review of the professional literature and have summarized those articles in which the findings from experimental research projects may be usefully applied to the kind of practical demonstration which we attempted. We feel that it is essential to try to link what is learned in the laboratory with what is observed in naturalistic settings.

THE AGENCY SETTING

The Curative Workshop of Milwaukee is a multi-discipline private rehabilitation agency which in 1969 served 4,572 patients in the course of 117,016 (estimated) patient visits. The staff consists of 170 full-time and part-time workers.

Work with the mentally retarded has centered primarily in the Children's Program with pre-school and primary age group children and in the Vocational Program where occupational evaluation, work adjustment and vocational skills training and specialized placement is offered to adolescent and young adult mentally retarded individuals. This specific project, however, was carried on separately by the Research Department of the Agency.

CHAPTER II

A PILOT DOMESTIC WORK TRAINING DEMONSTRATION

The following 12 household tasks were broken down into their component parts:

cleaning oven	vacuuming	cleaning cupboards
cleaning stove	dusting floors	changing beds
washing dishes	defrosting refrigerators	washing floors
drying dishes	shaking rugs	dusting furniture

A list of safety precaution elements was also prepared for each task. Finally, a list of related visual, auditory and coordination skills was developed for two of the tasks. A complete set of job task analyses, the safety precautions and the visual, auditory and coordination skills analyses are included in the appendix.

Four trainable mentally retarded girls were chosen from two of the Milwaukee Public Schools for trainable retardates and placed in household part time for a period of three weeks during August, 1969 where they received training in performing household tasks.

There were two major factors that limited the scope of the project to this number of trainees and this relatively short time span. First, the project's funding could not support a broad and long-range program. Second we experienced some difficulty in securing both trainees and housewife-trainers for an extended period during the summer months. But in spite of these very practical limitations, we feel that the project as carried out is of value as a model.

Three of the four trainees worked for three weeks. During the first two weeks, they worked two hours a day for three days for a total of 6 hours per week. During the third week they worked two 2-hour days. The total number of hours put in by these girls came to sixteen. The fourth trainee was originally scheduled to work for the same time span, however, illness prevented her participating in the program until its second week. Her first week was comprised of three 2-hour days, while the second was comprised of two 2-hour days, for a total of ten hours with the program.

The training supervisor supervised the housewives and explained the principles of training the mentally retarded to them. She also explained the program to the mothers of the girls and encouraged the mothers to give the girls supplementary and complementary tasks in their own homes, to reinforce the training received in the selected households.

The girls all were instructed along the same general pattern. For example, during the first week the teacher and the housewife introduced the task of dusting in the first session, following the analysis. The second session was for review of that task plus teaching a new one, vacuuming. The third session reviewed both tasks. The third week was used primarily for a review of all that had been learned.

The housewives paid the girls a small sum to start and raised their pay slightly for the second week. Placements were scattered throughout the Greater Milwaukee Metropolitan area, including the suburbs. Because of the travel distances involved, the girls were transported to and from work by research department staff members. This was an expensive temporary expedient and transportation would undoubtedly be a continuing problem in this kind of employment.

CHAPTER III

TRAINEE PROFILES

The trainees' profiles are intended neither as a complete clinical report nor a complete case history. We included a brief synopsis of the school psychologist's report but as many of these were completed several years earlier they are primarily of development interest. The main emphasis is on the training supervisor's report, selected information from the follow-up evaluation and the report of a currently administered intelligence test.

The IQ's obtained during the earlier examinations by school psychologists together with the current IQ obtained by testing in February, 1970 are deliberately presented last in order to minimize reliance on the IQ score as a judgment base.

Alice *

Alice's most recent evaluation by a school psychologist occurred in 1961, when she was 9; she was classified then as moderately retarded and trainable. Her test behavior at the time was somewhat uneven, although in general she was "competent."

During her training period with the project, Alice undertook the job tasks of dusting furniture, washing dishes, vacuuming carpets, and making beds. Once she fully comprehended dusting, which occurred after a few hours of instruction, she could move about on her own and dust thoroughly in assigned rooms. Alice washed dishes in her own home, and according to the housewife, washed and dryed dishes more thoroughly than the housewife herself. Alice had never used a vacuum cleaner before, and was initially afraid of the machine and unable to move it about freely. After a few days of instruction she became competent and confident in its use. Alice learned to make single, bunk, and double beds. The housewife noted that she was most meticulous in making them perfectly, evidencing adeptness at the required eye-hand coordination for this task.

Alice responded well to verbal instruction and would not need constant supervision. Her employer felt that she should be told what to do each time a task arose, while the supervisor and mother both felt that she could work alone. Alice seemed especially responsive to praise and indicated this was the most preferred motivation for herself. Her employer felt that she responded best to money and food or drink, while the supervisor felt that money, praise, attention and food or drink functioned equally as motivating factors. In addition, according to the supervisor, Alice appreciated the housewife's interest in her.

Alice's most severe handicap seems to be her lack of confidence in herself. This was noted by the supervisor, and backed up by Alice's surprise in how well she did in the home. She is an extremely shy girl and did not initiate conversation although she responded well to conversation, children, and pets. She seems to enjoy being around people, and receiving praise for her work.

* All trainees have been assigned fictitious names.

Alice felt herself that she was ready for regular employment at $2.00 per hour. The housewife and supervisor both felt that she needed further training and that presently she could work for, respectively, $1.00 and $1.50. She seemed to comprehend the value of money, and had planned how she would spend her salary from the training. The employer thought 8 weeks of training would suffice as employment preparation, while the supervisor put training time at 10 to 15 weeks, 6 hours per week.

Alice liked some of the jobs, most of the socialization offered in the training, and sometimes liked her employer. She especially liked the training supervisor. But according to her own answer, she did not want to continue on this job although she had previously answered the supervisor that she would like to do this work permanently. Her employer pretty much sensed what Alice did and did not like about the work although she did not sense that Alice did not always like her. The supervisor felt that Alice enjoyed all her jobs, her employer, and that she would like to continue. Her mother's answers to questions of job satisfaction exactly matched Alice's. Her mother likewise preferred a different kind of job training for Alice since she did so much domestic work at home.

Alice's Stanford-Binet IQ (1961) - 49.

Retesting: February, 1970

Wechsler Adult Intelligence Scale — Full Scale IQ - 58 — Verbal IQ - 58 — Performance IQ - 62

Verbal				Performance			
Information	1	Similarities	0	Digit Symbol	1	Picture Arrang.	4
Comprehension	4	Digit Span	4	Picture Comp.	7	Object Assemb.	6
Arithmetic	3	Vocabulary	0	Block Design	2		

Alice's overall level of intellectual functioning fell within the "Defective" range. The variation among the subtest scores was somewhat wide, ranging from the "Defective" through the "Dull Normal" levels. Relative strengths were noted in areas of essential detail discrimination, and perceptual organization on a task involving object assembly. Areas of relative weakness were seen in verbal concept formation, general vocabulary, general fund of information, visuo-motor speed and effeciency, and perceptual-motor capacities on a task of non-verbal concept formation.

Alice appeared relaxed and was friendly, cooperative, and well-motivated in her approach to the testing. Her attentiveness to the tasks was good.

Synthesis of test data and client's observed performance in a work setting.

Alice's best subtest scores are in picture completion and object assembly and represent relatively higher level ability in observing pertinent details and understanding how to arrange things. These differentially higher skills were observed independently in her ability to succeed in three different types of bed making and in washing dishes with above average efficiency compared with an average housewife.

Ada

Ada, unlike her sister Alice, was last evaluated by a school psychologist in 1967, when she was 15; she was considered moderately retarded. At that time she found it difficult to respond to oral direction, and seemed to function better when a task was presented visually. She worked on a rote memory basis in academic areas. Her eye-hand coordination was quite poor, equivalent to that of a five-year old.

During the training period, Ada undertook the tasks of dusting furniture, washing dishes, vacuum cleaning, bed making, and washing floors. In general, she functioned much better at these tasks than the supervisor expected. She was quite experienced at dusting, so that her training in this area consisted mainly of refinement of what she already knew. She handled articles very carefully and was most thorough in her dusting. She experienced some difficulty in remembering where an article was to be replaced after she had removed them all. To alleviate this problem, she learned to dust one article at a time and the table underneath it and replace it immediately. She needed no further training in dish washing, and was very thorough and meticulous in this task. Ada has never seen a vacuum cleaner before, and at first was afraid of it, moving it about in small areas. She came to master this task successfully, however, and after two weeks could vacuum rooms completely on her own after dusting. Ada learned to make single and double beds with fitted sheets and hospital corners. She was likewise meticulous at this task, and her eye-hand coordination seemed very refined.

Of the four girls observed by the training supervisor, Ada seemed most poised and graceful, as well as the most successful in comprehending directions and carrying them out. She was confident in her work and abilities. All concerned with her training, including herself, felt that she did better during the training than expected. Both Ada and the supervisor feel that more domestic training for employment is called for, 8 weeks and 10 to 15 weeks respectively, while the housewife felt that she was ready for competitive employment at about $.75 per hour. Ada felt that she could receive $1.50 per hour, and the supervisor $1.10. Ada seemed to understand the value of money and could specify how she would use her pay check from the training.

Ada is a shy girl, with limited vocabulary and language usage. She does, however, like people. She particularly liked the housewife and supervisor, and responded well to conversation with them. Out to lunch with the supervisor, and the other girls, she handled herself well. She refrained from initiating conversation. One aspect to note here is her fear of pets, especially dogs, which she evidenced while training.

For motivation, Ada chose food and drink more than other motivators. Praise and money seemed important to her, while the housewife's interest by listening did not impress her at all in comparison to other motivators. However, the supervisor noted that this interest did seem to function as motivation for her. The housewife added that a sense of duty because of her participation in the training program also seemed to motivate Ada.

There was some disagreement among Ada, the housewife, the supervisor and her grandmother in some areas. Ada, the supervisor, and her mother felt that she liked all the job tasks; her employer, however, felt that Ada liked some of the

tasks only. Ada stated that she liked the social situation of the training somewhat, as did her grandmother. The housewife felt that she liked most of the socialization and the supervisor all.

Ada stated on the interview schedule that she would not like to continue on the job, although she had previously told the supervisor that she would like a permanent job working in this area and her employer felt that she would like to continue. Her grandmother likewise indicated that Ada would not like to continue on the job, so that perhaps some discussion between the two had caused them to formulate their negative responses. Mrs. B. would like a different kind of training for Ada since her right arm is slightly impaired from a childhood break.

Overall, Ada seemed satisfied with more aspects of the employment situation than dissatisfied, but the dissatisfaction is with an essential of the work.

Ada's Stanford-Binet IQ - 43

Retesting: February, 1970

Wechsler Adult Intelligence Scale — Full Scale IQ - 59 — Verbal IQ - 56 — Performance IQ - 68

Verbal				Performance			
Information	1	Similarities	0	Digit Symbol	5	Picture Arrang.	5
Comprehension	3	Digit Span	1	Picture Comp.	5	Object Assemb.	5
Arithmetic	2	Vocabulary	3	Block Design	4		

Subtest variation does not conform to any specific diagnostic category. The client obtained no credit on the task requiring the abstraction of verbal material and even with considerable assistance seemed unable to grasp even the nature of the task.

The client approached the testing in a slightly retiring though cooperative fashion, and displayed good motivation throughout. Once comfortable in the testing situation she let herself become quite involved in the test, and consistently worked well even when faced with difficult items. Her social judgment and presence suggest a higher level of functioning than test scores might imply.

Synthesis of test data and the client's observed pefformance in a work setting.

Ada scored differentially higher in all of the performance subtests. This is compatible with successful mastery of bedmaking, dishwashing and vacuuming. It is interesting that limited memory capacity for unstudied materials is reflected on a low digit span and low information scores and also an inability to remember where to replace dusted articles. An ingenious practical method of coping with this impairment so that it did not constitute a disability was by dusting one article at a time and the table underneath it and replacing the article immediately.

Elsa

Elsa was last evaluated by a school psychologist in 1967 when she was 13, she had participated in the Special C program for educables since 1959. The psychologist's report was relatively long and detailed. At the time of testing, Elsa showed reasonably good mastery of basic social information and practical judgment. Her auditory memory appeared relatively weak, as did skill in spatial relationships and visual-perceptual functioning. Emotional development seemed to have been sustained on a level where the attainment of an infantile variety of personal satisfaction seemed paramount.

Elsa was categorized as functioning in the lower extremes of the mildly retarded range. She was diagnosed as epileptic, with seizures under control by medication. Problems were compounded by a poor home environment. She was a verbal child, with seemingly good capacity for acquiring basic social judgments and understandings. She was not accepted well in her school at the time of this evaluation; however, the counselor noted that as they walked through the halls other children criticized and laughed at her appearance and behavior. The combination of low ability and immature social judgment suggested to the evaluator that planning for eventual institutionalization be considered. At this time, it was suggested that Elsa be placed in a trainable school, where she was enrolled at the time of this project.

During the training period, Elsa undertook the tasks of dusting furniture, vacuum cleaning and bed making. At first, Elsa was very careful in dusting, and evidenced good visual memory in removing and replacing objects. However, as the period progressed, she grew lax and would hurry through the task without much care. This development seemed due to dislike for the task more than a lack of memory. She had never used a vacuum cleaner before, but with close supervision and instruction eventually mastered its use. Here too, however, she lost interest once the job became routine. Although instructed for several days in bed making, Elsa could not master the task. Her poor eye-hand coordination hindered her from fitting sheets and covers evenly. It appeared too complex for her to handle. She would require more training in bed-making and similarly complex tasks, with emphasis on improving coordination.

Elsa felt that she did better on the job than expected and the $.60 per hour would be a valid wage. She thought she would require about 3 weeks more training to prepare for competitive employment. Her employer also felt that Elsa surpassed expectations, and agreed on the need for more training. She felt Elsa could presently work for $.50 per hour. The training supervisor felt Elsa did poorer than expected and that she would require about 18 to 20 more weeks of training in domestic tasks Both supervisor and mother felt Elsa could work alone after learning a routine, although her employer felt she needed constant supervision.

As far as her employer was conserned Elsa seemed motivated by money and food or drink. She felt that the opportunity to see and play with the household dog served as the prime motivator for Elsa. The supervisor felt that the interpersonal relationships of the training period as well as the salary served as chief motivators although food or drink and praise were the most important to her, with attention and money equally important as secondary motivators. She understood the value of money and usually planned either to spend it or save it.

In general, Elsa tolerated her work situation and interacted well with the people involved. She both responded to and initiated conversation with the housewife and supervisor, and utilized a vocabulary belying her status as a trainable. The supervisor noted that Elsa generally carried the whole conversation herself. She

herself indicated that she liked all the tasks, the employer and supervisor and that she would like to continue on the job. Her employer felt, however, that Elsa liked none of the tasks, and only sometimes liked the social situation. The housewife also felt that Elsa did not like her at all times, but did like the supervisor. The supervisor felt that Elsa liked some of the tasks and most of the social opportunities offered by the job. She perceived that Elsa liked the housewife and would like to continue on the job, but primarily for the money, i.e. she would continue in spite of her general dislike for domestic work. Elsa's mother felt that she liked some of the job tasks, but always liked the housewife, the teacher, and her opportunities to relate to them. Her mother felt too that Elsa would like to continue on the job, even though her home responsibilities consist mainly of household tasks.

The trainer noted that since Elsa's vocabulary and abstract understanding were superior to those of the other trainees, perhaps another kind of training might suit her better. Elsa also exhibited more dislike for the job than the other girls, and this may be a function of a higher intelligence. Elsa's main problem seemed to be one of instability more than retardation, although the situation is not a simple one.

Elsa's Stanford-Binet IQ (1967) - 53.

Retesting: February, 1970

Wechsler Adult Intelligence Scale — Full Scale IQ - 64 — Verbal IQ - 64 — Performance IQ - 69

Verbal				Performance			
Information	4	Similarities	3	Digit Symbol	5	Picture Arrang.	6
Comprehension	4	Digit Span	1	Picture Comp.	6	Object Assemb.	3
Arithmetic	2	Vocabulary	4	Block Design	5		

Relatively low scores were obtained on both verbal subtests dealing with numbers possibly indicating difficulty in this sphere. The client's nervousness may have also been a significant factor in this regard.

During the testing the client was very friendly, verbal, and cooperative. Her motivation was also very good throughout. She appeared somewhat nervous, but her hyperactivity made it difficult to assess whether or not the observed anxiety was related to the testing situation.

Synthesis of test data and client's observed performance in a work setting.

Elsa's information, comprehension and vocabulary subtest scores are higher than those of the other girls and she shows herself to be much more verbal in the work situation, initiating and carrying on conversation with a higher than expected vocabulary. It is interesting that she is reported as having trouble making beds and that despite her generally higher level ability she is two and three points respectively below Ada and Alice on the object assembly test, both of whom are observed to do well at bed making.

Hyperactivity and distractibility may account both for her differentially low scores on arithmetic and digit span and also for her observed loss of interest in household tasks once learned.

Bebe

Bebe was last evaluated by a school psychologist in 1966 when she was 16. Measured intelligence put her into the severe to moderate range of retardation, she evidenced some deterioration from pervious examinations. Bebe was considered trainable since low visual-motor ability exaggerated her otherwise moderate retardation. Continuation in trainable classes was recommended with emphasis put on activities involving eye-hand coordination.

During her training period with the project, Bebe undertook the tasks of dusting, vacuuming carpets, and washing dishes. Due to illness she missed the first week of training, and thus accomplished fewer tasks than the other girls. Bebe had difficulty with dusting since she could not organize her work in a room. She selected objects to dust at random, and could not remember what still needed to be done. After a few days of training, she dusted in some order and performed this task on her own. She exhibited no difficulty with eye-hand coordination. According to her employer, Bebe washed dishes excellently; she does them daily at home. Bebe was familiar with the vacuum cleaner. At the end of the two week training period, Bebe dusted and vacuumed a few rooms on her own and did an excellent job.

Bebe responded well to praise of her work and to the housewife's interest in her as a person. She herself responded that the employer's attention was most preferred as motivation, money held no interest for her. Bebe's employer thought that food or drink and money did not function as motivators, while the training supervisor gave equal value to food or drink, money, attention, or praise.

Bebe seemed to have a sense of her worth as a person, as her employer noted in an interview. Bebe felt that she did better at her training tasks than she expected. Both housewife and training supervisor also noted that her job performance was better than expected. Bebe, her employer, and the training supervisor all felt that more training was needed, and that at her present level of performance she could command a salary of, respectively, $1.30, $1.00 and $.80. Bebe and the housewife felt that four more weeks of training would be sufficient to prepare for competitive employment, while the training supervisor felt that 15 to 20 weeks of 6 hours of work per week was called for. Both employer and training supervisor felt that Bebe could easily work alone once she learned the routine, while her mother answered that she should be told each time what was to be done just before doing it.

In general, Bebe liked her work situation and the people involved with it, and stated that she would like to continue on the job. Her employer, training supervisor, and mother all agreed on her liking the work although both employer and mother noted that she didn't like all of her tasks. Bebe stated that she did like the tasks. She also liked her employer and supervisor, and this was likewise noted by employer, supervisor, and mother. Bebe responded appropriately to the social situation of her job - housewife, pets and children - including the retarded child of her employer. The supervisor noted that she initiated conversation, but neither Bebe nor the housewife mentioned this aspect of socialization.

Bebe was unique in the project in that she was older than the other girls and no longer in school. In her situation, the supervisor noted, domestic training is particularly important to prevent Bebe from feeling frustrated and defeated.

Although limited verbally, the supervisor felt that Bebe could generally succeed in domestic employment.

Bebe's Stanford-Binet IQ (1966) - 33.

In addition to her participation in this demonstration, Bebe had previously worked two hours a week for a year as charwoman in the research office. She had certain regular tasks (emptying wastebaskets, cleaning ash trays, dusting the phones, washing the windows and cleaning the bathroom sink) which she performed each week. She remembered what they were and did them satisfactorily, without supervision. Each week, in addition to the above tasks, she would either sweep, vacuum, or mop the floors. For this she needed some direction, but if the steps to be followed were gone over with her (e.g. move the furniture, start at one side of the room and work towards the other, etc.), she could do an adequate job with minimum supervision.

She found it extremely difficult to interrupt a task, begin another, and then return to the task. Her coordination was poor, and although she would attempt to do a complete job (corners, behind doors, etc.), this was hard for her. If she was tired (especially on warm days) or if there were a lot of people in the office, her performance deteriorated. However, she would cheerfully redo a badly done task if the deficiencies were pointed out in a pleasant matter of fact manner Direct criticism and negative comments would frighten her and cause her to withdra

With firm but pleasant supervision Bebe seemed capable of performing the above tasks and possibly slightly more difficult ones. The personal relationship with the supervisor was crucial. Bebe would not complain or verbalize her feelings, so the instructor had to be able to sense whether she understood or not, whether she was tired, nervous, etc. She also seemed incapable of working in an impersonal, formal employer-employee relationship. She would not perform well, if at all, unless she liked and trusted the instructor.

Bebe's greatest asset may be her memory for names and people. She knew all the staff by name, and within a few minutes of her arrival she was aware of who was in or out and inquired about those not present. She remembered all those who worked with the department during the past year and frequently asked questions about former employees whom she had not seen for a while. She remembered the answers (e.g. C____ is in New York City, V_____ got married) and seemed to regard all relationships as continuing: that is, she seemed to expect that eventually everyone will return.

Retesting: February, 1970.

Wechsler Adult Intelligence Scale — Full Scale IQ - 50 — Verbal IQ - 57 — Performance IQ - 46

Verbal				Performance			
Information	3	Similarities	0	Digit Symbol	0	Picture Arrang.	0
Comprehension	4	Digit Span	4	Picture Comp.	5	Object Assemb.	1
Arithmetic	1	Vocabulary	2	Block Design	1		

Among verbal subtests, variation suggests the client is able to assimilate information, but has difficulty utilizing it on other than very elementary levels. Her low performance scores, while definitely reflecting a lack of ability, are also partially a product of the client's reluctance to attempt difficult tasks.

The relatively high picture completion score is felt to be due in part to the fact that this test seemed less threatening than the other performance subtests where materials must be manipulated and evidence of success or failure seems more visably concrete.

The client approached the testing in a cooperative but retiring fashion, as though apprehensive about such an evaluation of her abilities. Despite repeated efforts to make her comfortable she did not seem to relax during the testing; she did not allow herself to become involved, and put forth barely adequate effort, particularly with difficult items. For these reasons, the reported scores may be a low estimation of her abilities although she is felt to be severely retarded in terms of an average population.

Synthesis of test data and client's observed performance in a work setting.

We had been able to observe Bebe's work task and work role performance over a span of a year. Her differentially and relatively higher comprehension and digit span subtest scores support our observations in respect to her ability to remember people. People are definitely her chief interest and her behavior is highly contiggent upon her interaction with others in her environment. Her generally low performance scores (picture completion excepted) are compatible with her difficulty in sweeping, vacuuming or mopping the office without minimal supervision. She enjoyed sharing the coke break with the research staff and participating in this social role successfully except that when the conversation became too abstract she would give up trying to participate and become lost in her own thoughts, as her 0 score in similarities would predict.

SUMMARY

Differentially higher scores on the performance subtests seems to go along with better ability in the working with things aspects of household tasks including bed making and dish washing. Differentially higher scores on the verbal subtests seem to be reflected in relatively higher level social skills in initiating and carrying on conversations with the employer and in remembering people.

Further research with larger samples and more sophisticated methodology is suggested to determine whether differential patterns among WAIS subtests may be used for predicting task and role performance of trainable mentally retarded girls in household tasks.

Mean WAIS Scores for all Trainees

WAIS	Mean IQ	Mean IQ points below upper limit (69) of the mentally defective range.
Full scale	57.75	11.25
Verbal	58.75	10.25
Performance	61.25	7.75

The mean IQ for these four girls falls substantially below the upper limit of the mentally defective range showing that we have been working with a group of severely impaired individuals not usually even considered as having potential for competitive work. That they performed as well as they did suggests that further research on evaluating the potential of trainable girls for competitive employment is feasible and desirable.

Mean subtest scores in usual subtest order

Verbal	Mean subtest scaled scores	Distance in scale score points below mean of standardization sample (scale score of 10) *
Information	2.25	7.75
Comprehension	3.75	6.25
Arithmetic	2.00	8.00
Similarities	0.75	9.25
Digit Span	2.50	7.50
Vocabulary	2.25	7.75
Performance		
Digit Symbol	2.75	7.25
Picture Completion	5.75	4.25
Block Design	3.00	7.00
Picture Arrangement	3.75	6.25
Object Assembly	3.75	6.25

In the third column above the distance of the mean subtest score of these girls is from the mean (10) of the standardization group of 500 adults ages 20-34 shows the relative incapacity in each subtest area.

Mean subtest scores in rank order

Subtest	Mean scores	Distance in scale scores points below mean of standardization sample (scale score of 10)
Picture completion	5.75	4.25
Comprehension	3.75	6.25
Picture arrangement	3.75	6.25
Object assembly	3.75	6.25
Block design	3.00	7.00
Digit symbol	2.75	7.25
Digit span	2.50	7.50
Information	2.25	7.75
Vocabulary	2.25	7.75
Arithmetic	2.00	8.00
Similarities	0.75	9.25

The data in the second table above is repeated in this last table but rearranged in rank order to show more clearly the hierarchy of mean abilities of the four girls as measured on the WAIS subtests.

* Weschler, David. WAIS MENUAL, The Psychological Corp. NYC, 1955, p. 18.

CHAPTER IV

EVALUATION

An evaluation of the project was carried on by a staff interviewer in the Research Department who had not been associated with the project and who had in fact joined the staff after the demonstration part of the project had been completed. He interviewed the training instructor, the housewife-employers, the girls and their mothers following a structured interview schedule. A copy of the interview schedule (Form 42) is included in the Appendix.

The first question on the evaluation form was designed to obtain opinions on the quality of the four girls' performances at housework. There was substantial agreement among the clients (the girls), their employers, and the training supervisor. In general, clients did better than expected - a favorable outcome for the project.

TABLE 1: Evaluation of the Girls' Performance

	client self-report	employer's estimate	training supervisor's estimate
a. better than expected	4	3	3
b. about the same as expected		1	
c. poorer than expected			1

The second question dealt with the employment readiness of the girls. There was again substantial agreement among the respondents. It should be noted that none of the respondents felt that a girl would never be ready for competitive employment. The general opinion was that the girls need further training. These responses were in the expected direction since this was a pilot project and the relatively few training hours were inadequate to completely prepare the girls for competitive employment.

TABLE 2: Evaluations of the Girls' Readiness for Competitive Employment

	client self-report	employer's estimate	training supervisor's estimate
a. now ready for competitive employment	1	1	
b. more training required	3	3	4
c. will never be able to get a competitive job doing housework			

Question three represented an attempt to determine the amount of supervision required to ensure the girls' satisfactory performance. Only one respondent thought that a girl required constant supervision, while the training supervisor said that all four girls could work alone once the routine was learned. This is another favorable outcome of the project.

TABLE 3: Opininns on the Amount of Supervision Required for the Girls

	employer's opinion	training supervisor's opinion	mother's opinion
a. can work alone once routine is learned	2	4	3
b. must be told each time what to do, just before doing it	1		1
c. requires constant supervision	1		

Part (a) revealed agreement between the clients and the training supervisor; in three cases it was said that the girl liked all job tasks. However, none of the employers and only one of the mothers thought that a girl liked all the job tasks. For part (b) there was agreement between client and employer. No one answered that a girl never liked the job social situation.

TABLE 4: Opinions on the Girls' Satisfaction with Job

	client self-report				employer's opinion				training supervisor's opinion				mother's opinion			
a1: all; a2: most a3: some; a4: none	a1	a2	a3	a4	a1	a2	a3	a4	a1	a2	a3	a4	a1	a2	a3	a4
a. liked job task	3		1			1	2	1	3		1		1	1	2	
b. liked job social situation.	2	1	1		2	1	1		2	2			2	1	1	

Part (c) showed agreement among client, employer, mother and training supervisor in liking employment. No one answered that a girl never liked her employer. Part (d) shows complete agreement in liking the training supervisor.

TABLE 5: Opinions on How the Girls Liked Employers and Supervisors

	client self-report			employer's opinion			training supervisor's opinion			mother's opinion		
a1: always; a2: sometimes; a3: never	a1	a2	a3	a1	a2	a3	a1	a2	a3	a1	a2	a3
c. liked employer	3	1		3	1		4			3	1	
d. liked training supervisor	4			4						4		

For part (e) there was agreement between the clients and the mothers. It is interesting to note that two of the employers thought the girls they had employed would like to continue on the job and the other two were not sure, while the training supervisor thought that all four would like to stay on. Two of the girls, however, with the agreement of their mothers, definitely did not want to continue.

In general, then, the answers to the five parts that made up question four indicate that the girls liked the training supervisor and generally liked the employers; that the girls generally liked the job tasks; and that they were ambivalent regarding both the job social situation and the question of staying on at their jobs.

TABLE 6: Opinions on Whether the Girls Would Like to Continue on Job

	client self-report			employer's opinion			training supervisor's opinion			mother's opinion		
a1: yes; a2: no; a3: ??.	a1	a2	a3	a1	a2	a3	a1	a2	a3	a1	a2	a3
e. would like to continue on job	2	2		2		2	4			2	2	

Question five dealt with social interaction: how the girls related to the people with whom they came in contact at work. It is worth noting that only one girl reported that she herself initiated conversation, while all interviewers noted that the girls responded appropriately to conversation. The lower number for "appropriate responses to children" is due to the fact that one household had no children.

TABLE 7: Opinions on the Girls' Interaction with Other People at Work

	client self-report	employer's estimate	training supervisor's estimate
a. initiated conversation	1	1	2
b. responded to conversation	4	4	4
c. responded appropriately to children	3	2	2
d. responded appropriately to pets	4	2	3
e. responded appropriately to other social situations, n.e.c. describe		2	3

Question six (first section) was concerned with what motivated the girls at work. On none of the items was there complete agreement between employer and training supervisor as to motivation. It should also be noted that in three cases the employer checked "other" while the supervisor did so in all four cases. (The explanations given for "other" will be discussed later.)

TABLE 8: Opinions on Possible Motivators

	employer's estimate	training supervisor's estimate
a. responded to money as a motivator	3	4
b. responded to attention as a motivator	2	4
c. responded to praise as a motivator	2	4
d. responded to food and drink as a motivator (candy, cookies, cakes, soft drinks, etc.)	3	4
e. other - explain under #7	3	4

TABLE 9: Clients' Self-Report on Motivation

For clients' self-report on motivation, the following series of paired comparisons was presented:

1. Did you like it better when she gave you money or when she listened to what you said? money 3 listened 1.

2. Did you like it better when she gave you money or when she said nice things about you? money ___ praise 4.

3. Did you like it better when she gave you money or when she gave you things to eat or drink? money 1 food/drink 3.

4. Did you like it better when she listened to what you said or when she said nice things about you? listened 1 praise 3.

5. Did you like it better when she listened to what you said or when she gave you things to eat or drink? listened 3 food/drink 1.

6. Did you like it better when she said nice things about you or when she gave you things to eat or drink? praise 1 food/drink 3.

Question six (second section) was an attempt to determine the girls' preferences among the four motivators used in question six (section one). The results can best be shown as follows:

All Girls:	Motivator	Number of Times Preferred
	Praise	8
	Food/Drink	7
	Listened	5
	Money	4
Bebe:		
	Listened	3
	Food/Drink	2
	Praise	1
	Money	0

Bebe's employer thought that she responded to attention - "listened" - and praise, but not to money or food/drink. However, the training supervisor thought that Bebe responded to all four motivators.

Elsa:		
	Food/Drink	2
	Praise	2
	Listened	1
	Money	1

Elsa's employer thought that she responded to money and food/drink; not to attention or praise. The supervisor thought she responded to all four motivators.

Alice:	Motivator	Number of Times Preferred
	Praise	3
	Money	2
	Listened	1
	Food/Drink	0

Alice's employer felt that she responded to money and food/drink; not to praise and attention. The supervisor answered that she responded to all four.

Ada:		
	Food/Drink	3
	Praise	2
	Money	1
	Listened	0

Ada's employer thought she responded to all four motivators, as did the supervisor.

Two of the employers who checked "other" motivators explained this answer by saying that the girl seemed to be motivated largely by a feeling of self-worth acquired through the performance of a worthwhile function and through the interest shown in her as a person by the housewife. The training supervisor, who checked "other" motivators for all four girls, explained this answer in similar terms. It seems, then, that aside from the motivators listed above, there may be another one of at least equal importance in some cases. This motivator might be referred to as "a feeling of self-worth."

While this study is too small in scope to permit any investigation of the importance of this motivator, it would be worthwhile to include this topic in a future study. One way to determine its importance as a motivator would be to seek evaluations from parents and teachers on the girls' performance at home and school, and from employers and supervisors on the girls' performance on the job. If the evaluations of the girls' performance on the job are consistantly higher than those of their performance at home and school, this could be an indication of the importance of actual employment to the girls' good performance of job tasks.

CHAPTER V

BRAINSTORMING THE POSSIBILITIES

The following ideas emerged during the seven staff conferences in which the various steps of the project were planned. They include possibilities, problems and possible solutions. Although highly impressionistic, they are included for their possible orientation value for personnel considering or starting similar type projects.

Standardization of tasks to be learned was emphasized, so that the girls could benefit from maximum carry-over. Thus, not only would housewives follow the steps of individual task breakdowns, but the girls' mothers could reinforce this learning at home. This seems especially necessary for tasks that are new to the girls or for complex tasks.

It was also suggested that during the training proeedure, the girls could repeat directions back to the trainer or housewife as she performed the task that had already been demonstrated for her. Training might also include use of the telephone on a very simple level. Putting the girls into teams of two was also discussed, although care to avoid personality conflicts must be taken.

For a longer project, training should begin while the girl was still in school, when she was about 16. The girl would be in the housewife's home during the half day she was not in class. After graduation, the girl could be selectively placed in employment. Training at this time could also be conducted by an experienced domestic rather than a special education teacher.

A future project of this kind could include other agencies. It was suggested that the job breakdown be used and thus tested in trainable classrooms. Teachers in the local public schools for trainables have much leeway in choosing curriculum. Instruction in the classroom would free the housewife-girl situation from training aspects so that emphasis could be placed on the social relationship of the work. Classroom training would also serve as additional reinforcement of learning. This idea involves not only immediate project staff, but also teachers of trainables and the supervisor of special education.

This last point leads us into the problem of personnel. A number of possibilities for training supervisors eventually arose for future references: a Department staff member; a graduate student in special education, for whom the one-to-one contact with trainables might be of greater benefit than classroom contact; an experienced domestic, who could demonstrate unconsciously the aspects of employer-employee relationship expected in the domestic situation; the housewives themselves, who might be able to meet periodically to discuss the training, as well as be oriented in working with the retarded.

Althoggh most girls would be willing to participate in a training project, many sources must be carefully searched for sufficient numbers of trainees. Generally mothers and girls are enthusiastic about the idea of the project, especially if it could be carried out on a daily basis during the school year. A personnel problem arises in getting a sufficient number of house-

wives within a relatively manageable geographical area. Jewish Vocational Services of Milwaukee has a training program for housewives in working with the retarded which might be a source not only of personnel but also of training facilities if the housewives were to train on their own. Or, the suggestion was made that working wives might be especially anxious for household help on weekends although no specific sources for such housewives could be identified. The desire of working wives to eschew housework as their contribution to the female protest movement may provide additional motivation. Criteria for selection of housewives - would be formulated to prevent problems in the housewife-trainee relationship, but this would also limit the field of available women.

Transportation is always a potential problem. For this project a hierarchy of transportation modes was established, which could be generally applicable in any such project. Easiest, and thus first, is bus transportation. If this is impossible, then the girls' parents would be asked to provide transportation. Then the trainer could provide it, then the housewive, and finally the department conducting the study. This or a similar hierarchy should be set up early in any project since lack of a means of transport can delay much progress.

Since bus transportation is so available, a part of a project could include bus training. One program in this area is noted in the bibliography. Use of the bus would necessitate housewives living within a relatively confined area of the city - a criterion we were not able to fulfill in the present project.

Sources of funds were also discussed. Federal money might be sought from the National Institute of Mental Health. The United Association for Retarded Children might also be solicited for funds. During training, wages might begin around 40¢ an hour, contingent upon the girls' acceptance. This would be raised as appropriate. But payment of even such a small wage required a good amount of project funds. Wages should probably constitute the largest area of a project budget.

Based on a letter from the Department of Health, Education, and Welfare after submission of a long-range training project, a number of ideas were discussed. A treatment of the rationale behind wage levels should be included in any project proposal, since the low early wages evidently raise doubts in some minds. Exploitation of the girls by the housewives, as suggested in the letter, seems highly improbable. Especially during the early stages of training the girls will require much attention and supervision, and will probably always work relatively slowly. A future proposal could possibly include housewife profiles, citing background, training, and experience, as well as including clarification of type and extent of supervision. This may offset suspicion of exploitation.

Evaluation procedures must also be tightened. More specific criteria for success should be formulated, although most of our previous information on subjects will be from other sources. A number of analyses might be run at both the beginning and end of the project, for example, testing the girls on what they can and cannot do, talking with mothers about their - daughters' behavior and problems, etc. It was also suggested that we formulate an adaptation of a scale such as Doll's to specify and structure what kind of behavioral changes we are seeking that indicate the girl's acceptance

of vocational role. This kind of adaptation might also help us specify the independent variable of socialization and its influence on the girls.

Running concurrently with the learning of household tasks will be the learning of what for the girls is a new social role: the role of worker. Research is scarce on the elements of this role in the domestic situation, as well as on how to teach it. The social learning that is a major portion of the project may necessitate as long as two years.

In summary, we have attempted to present some of the thinking of the staff about the various ramifications of the project, what might be done in the future, and the problems to be faced.

CHAPTER VI

REVIEW OF THE LITERATURE

A detailed bibliography for this project was developed in three sections: a review of the literature; an annotated bibliography; and a straight listing of references. It is important, in the rationale of this project, that practitioners who work with the retarded, e.g. teachers, psychologists, counselors, etc., be aware of experimental studies that have relevance to their practice. Research of literature is a time-consuming task, a task that practitioners who work a full schedule cannot often undertake. With this detailed bibliographic section, we hope to make it easier for practicing professionals to incorporate the findings of relevant experimental studies into their own daily labor.

In Chapter 6, we have attempted to summarize and integrate studies most closely related to the project's rationale. This chapter, then, does not include complete individual summaries for the articles noted as does Chapter 7, but rather draws out the essential ideas of previous work in the area. Thus it is a theoretical rather than practical treatment of what we think are some vital issues.

A majority of reports written on the vocational rehabilitation of retardates is concerned either with industrial rehabilitation in sheltered workshops and/or the rehabilitation of educable retardates. Only in recent years, largely as an outgrowth of research into operant conditioning, has interest developed in the training potential of lower level retardates. Still, the amount of work with trainables outside of purely institutional settings is very limited; even in the new research it appears more feasible to train subjects in a sheltered workshop. A number of projects are concerned with improving existing special education facilities in various school systems - these naturally concern themselves with educables, and particularly their vocational development after graduation. Trainables likewise experience vocational problems, and it is with this neglected aspect that this project concerns itself.

A review of literature brought to attention recent developments in utilizing operant conditioning. Most of the work in this area has taken place in the sheltered workshop environment. Thus, although these studies utilize job breakdowns for training purposes, subjects still work in an area designed especially for the handicapped. This project, then, is innovative in its setting of a typical household with relatively few provisions made for disability other than those of training and supervision.

Job analysis seems very feasible for use with the severely retarded. In a task breakdown, each step of the task may be taught separately, while the series of steps formulating the task is structured as a coherent unity. White (1968) described the technique of breaking down a task

using the example of a bakery helper. He also suggested that such a technique, in its simplicity could be utilized in either workshop or community situation. Peterson (1969) offered a case study of one severely retarded male to demonstrate that "with the proper techniques, trainable retardates are capable of learning more than it was traditionally assumed." This idea has been a major attitude of this particular project.

Two articles of particular interest examined the idea of task breakdowns more thoroughly. Crosson and deJung (1968) tested two groups of severely retarded vocationally naive young adults on retention of learning from task analyses. They found that the breakdowns were efficient in initial training, and that after two months without exposure to tasks the eleven experimental subjects could still perform at least one task perfectly. Crosson (1969) tested seven vocationally naive subjects, training them and retesting at two and twelve months. His data suggested that use of task breakdowns is initially efficient and facilitates retention of training over time. He urges further study of the method, for it appears easy for even nonprofessionals to use in training.

Central Colony in Madison has also utilized task breakdowns in an occupational evaluation laboratory. This program is run for 6 weeks to evaluate disturbed individuals who either come from areas where there are no evaluative facilities or who exhibit special problems that require more precise description. The staff of the lab has formulated a few task analyses. These instructions are geared towards adolescents who can learn faster than trainables, and they thus omit some of the "obvious" steps which we think are necessary in an analysis. Another advantage of their lab was that analyses of cleaning various equipment could be written with only one particular piece in mind--the equipment at the laboratory itself. In this sense, the analyses could be more specific.

Besides reports on using job breakdowns, the whole area of retardate learning theory has been a fruitful one for research. Most of this research, however, has been on a theoretical or laboratory basis, so that application of findings is up to the discretion of teachers and other practicing professionals. Researchers seem to be striving for more openness in their attitudes toward trainables, and are willing to attempt different ways of analyzing the learning process. There are a number of techniques that encourage retardate learning, which are discussed here.

Overlearning is a popular technique, and evidently effective. Spicker (1966) and Denny (1966) especially touched on this, emphasizing that overlearning is not merely repetition, but rather teaching what is to be learned in variety of contexts. This kind of attitude could mean learning the procedure for dusting, for example, in a number of different rooms containing pieces. Obviously related to overlearning's effectiveness is the familiarity of what is to be learned: familiarity makes the learning easier, as Spicker (1966) found in a review of the literature. Meaningfulness of material also functions as an aid to initial learning, as Greene (1967) pointed out in her discussion of intelligence.

Haywood (1968) found that the more correct responses made during acquisition, the longer knowledge was retained, while differences in IQ appeared negligible. (This belittling of IQ as the definitive measure is a common tendency among researchers). Denny (1966) theorized that under optimal initial learning conditions, including much help in responding correctly, the retardate can learn better and retain his learning longer.

Kliebhan (1967) found that with educables, goal setting and imitation increased production rates, theorizing that both these social learning models used together might effect even greater performance gains. Huddle (1967) found that a monetary reward was particularly effective with trainable adults, and even influenced work attitudes and habits outside of the experimental situation. He also found that trainable subjects can respond to incentives in essentially the same way as normals; that they can learn simple sequential tasks; that they require minimal supervision if the task is challenging; and that they require more motivation to sustain interest and/or performance than intrinsic motivation alone. These conclusions support much of the theory behind this project.

Another area fruitful for examination, both on the research and practical levels, concerned IQ as a criterion variable and the search for other variables that might be predictive of vocational or training success. The tendency on an experimental level is to analyze vocational behavior to enable professionals to glean a more concrete picture of areas to work on in rehabilitation.

Tobias (1960) theorized that there are some aspects of the work situation that IQ or intelligence does not affect. Correlating IQ with several simple tasks, he found a number of interesting points for consideration: that too simple tasks introduced problems such as fatigue and boredom which intelligence alone could not solve; that productivity could not be predicted from IQ alone; that general competence in one task implied the same for all, indicating the presence of a common factor; that intelligence level and percentage of improvement with practice were not related. Findings such as these give much encouragement to attempting a training project such as this one, where IQ levels are low.

Elkin (1967) conducted a similarly constructed study, in which his correlations among psychomotor, intellectual, and work sample measures indicated that the presence of a "general ability" factor encompassing these skills was related to job success. Moore (1968) formulated a generalized factor of "work tolerance" which included steadiness of work over a period of time, regardless of speed of task execution; accuracy of work; decreasibility of supervision; instruction retention; refraining from distracting or being distracted by other workers; punctuality; and schedule observance

Bae (1968) conducted a study to specify some of the alternative variables to IQ that might be measured to judge vocational capability. It seems that the success of the retarded in a given area of training is not solely accounted for by abilities and expressed interest. There appear to be different motivational and personality traits which influence their performance for a specific program and efficiency in it. The author pointed out that probably what is needed is emphasis on concepts of "differential vocational efficiency" rather than those of global vocational efficiency--implying, for example, that a retardate unsuited for one program might find his place in another.

Song and Song (1969), however, did point out that intelligence or IQ seems most important in predicting vocational adjustment when other relevant factors are held constant. There is evidently some question theoretically as to how this statement should be accepted.

Kahn (1967) examined IQ and the interaction of practice and reward on the motor performance of educables. After three months of training his subjects had not yet reached a performance plateau, implying that more than IQ seemed involved in prediction; researchers must also take initial performance scores and rate of improvement into account.

Some researchers have attempted to specify success criteria through comparison of groups of employed retardates. Appell et al. (1964-65) found that intelligence age, academic level, training time, work time, or finger dexterity did not differentiate successes from failures. Overall, no single factor made such a discrimination. Moore (1968) reported similar findings, in that neither age, sex, race, county, psychiatric diagnosis, physical disability, date of hospital admission, age of first admission, number of hospital admissions, nor length of time out of hospital were statistically significant for predicting rehabilitation success. Utilizing the Nebraska Patient Inventory (NPI) for retardates, he found significant difference between rehabilitated and non-rehabilitated clients only in the category of "Personal Status."

Kolstoe (1961) compared a group of employed and not-employed mentally retarded males on a total of 91 characteristics of a background, intellectual, personality, social and vocational skill nature. A clear superiority favoring the employed group in physical, personality, social and work characteristics was found, although no predictive conclusions were drawn. Chaffin (1969) suggested production rate as a variable in job success or failure, since it appeared sensitive, and varied individually as other variables in the work situation stayed constant. Comparisons in production performance should be maintained on individuals.

In general, then there is much theorizing about performance variables, and a hesitation about making definitive statements.

Part of the concern in this project was the study of the amount and effect of social interaction, objective measuring of what makes the project's relations different from the usual employer-employee relations. This interaction involves, for example, the reactions of the housewife to the girl as well as the implications of the girl being an adolescent. The research in this area is sparse, with a major concern being attitude change upon exposure to the retarded and/or a concern with parents of the retarded. For example, Jaffe (1967) found in a study of students that beliefs but not attitudes were changed by contact with the mentally retarded.

The hypothesis here is that social interaction is often as important a reward as any other for trainables to be motivated to produce. This is based on our own experience with the girl who cleans the office as well a the opinions of professional advisors. A review of the literature has produced no theoretical or practical treatment of this motivating factor in particular, so that the results specified here evidently will present a new opening into the rehabilitation of the more-than-mildly-retarded.

Verbal interaction is worthy of note in this area, since Spradlin et al. (1967) found that language is very important for social cue learning. Edmonson et al. (1967) theorized that this kind of learning is very important for success in vocational situations, and that with effort the social deficit under which the retarded operate can be remedied.

Based on previous research, then, this project enters a relatively unexplored field in concerning itself with trainables outside the institutional or sheltered workshop setting. Thus it concerned itself with making practical the suggestions of theorists in the field of retardate learning, the relevance of IQ and other performance variables, and the relatively unploughed field of social interaction on the job and its implications for productivity.

CHAPTER VII

A SELECTED ANNOTATED BIBLIOGRAPHY OF STUDIES AND PUBLICATIONS ON THE EDUCATION, TRAINING, AND PLACEMENT OF THE MENTALLY RETARDED

In this annotated bibliography, we have divided the literature into topics that were of concern in this project. These were: Evaluating and Teaching the Mentally Retarded; Motivation; Predicting Vocational Success; Retardate Learning; Other Related Projects, n.e.c.; Miscellaneous Publications, n.e.c.; and Bibliographies and Directories. This chapter presents complete summaries of relevant articles with no attempts made at organizing them other than into useful categories. As seemed appropriate, we have noted those articles within a category which seemed especially pertinent to project activity.

Evaluating and Teaching the Mentally Retarded

The following entries are concerned with two aspects of the project, the trainers' understanding of the girls they may work with and their ultimate judgment of the girls' adjustment and effectiveness. Articles related to the former aspect were overall discussions of mental retardation, and working with adolescent retardates. Articles related to the latter aspect gave us suggestions for categories of judgment to use in evaluation.

1. Blackwell, Robert B. A study of effective and ineffective teachers of the trainable mentally retarded. Dissertation Abstracts, October, 1968, 29(4-A), 1147.

Using 70 teachers of the trainable mentally retarded in the greater Denver area, the author sought to examine characteristics related to effectiveness of teachers of the trainable other than their educational background. He asked three questions: Is there a difference between the attitudes of effective and ineffective teachers of the trainable? Is there a difference in personal characteristics? Is there a difference in personality traits?

To answer these questions he gave the seventy teachers the Minnesota Teacher Attitude Inventory, the Edwards Personal Preference Schedule, and a personal data sheet. Each teacher's supervisor completed a teacher competency rating scale that determined their rating as effective or ineffective.

Three conclusions can be drawn from the results of this population's testing: (1) There is a difference between attitudes of effective and ineffective teachers of trainables; this finding is based on higher scores obtained by effective teachers on the MTAI. (2) There is a difference between personal characteristics of effective and ineffective teachers--effective teachers of trainables had previous pre-school, lower and upper primary training in comparison to ineffective teachers. (3) There is no difference between personality traits--effective and in-

effective teachers did not differ on the EPPS.

2. DiNola, Alfred J., Bernard P. Kaminsky, and Allan E. Sternfeld, with George H. Friedlander, Ph.D., Consultant. T.M.R. Performance Profile for the Severely and Moderately Retarded Record Booklet. Ridgefield, New Jersey: Reporting Service for Exceptional Children, 563 Westview Avenue.

   This performance profile can prove useful as an aid to specifying the kinds of behavior observed or desired from the trainee in the home. Useful sections of the book include: Major Area 1: social behavior (self-control, personality, social amenities); Major Area 2: self-care (dealing with food, clothing, safety); Major Area 3: communication (modes of communication, listening, language activities, language skills; Major Area 4: basic knowledge (information, awareness, social studies); Major Area 5: practical skills (tools, household items, family chores, vocational readiness); Major Area 6: body usage (coordination, health habits, eye-hand coordination). In each subsection of the major areas are listed specific behaviors which may be rated.

3. Fisher, Gary M. Sexual identification in mentally retarded females. American Journal of Mental Deficiency, 1961, 66(2), 266-269.

   From results of the Draw-A-Person Test, it seems that sexual identity is different in the retardate than in the individual of normal intelligence. Those with lower IQ's did not function differently more than by chance in the test. Mentally retarded children drew the female figure first less frequently than normals, but mentally retarded adults did not differ significantly from normals.

4. Hammar, S.L., M.D. and K.E. Barnard. The mentally retarded adolescent. Pediatrics, November, 1966, 38(5), 845-847. Available from: Children's Bureau, U.S. Dept. of Health, Education and Welfare, Washington, D.C. 20201.

   This particular study was concerned with identifying the characteristics of the adolescent retardate and examining their special needs. Twenty-six boys and eighteen girls, suspected mental retardates, were given thorough medical, neurological, psychological and dental examinations while school and family backgrounds were studied. These subjects ranged from 11 to 18 years of age with a peak at 14. Measured IQ was found to correlate poorly with how the adolescent functioned in his environment, except for the severely retarded. About 70% of the subjects had physical defects and/or suspected central nervous system dysfunction. Nutritional areas, as evidently typical with this age group, need additional exploration.

   Overall view of the parents' and professional staff's opinions showed concern about different features of the adolescent's behavior. These differences interfered with parent-professional communication and made planning difficult. The discrepancy was most noticeable in relating behavior problems of "immaturity and dependence." Parents and professionals tended to recognize problems of aggressive and destructive behavior.

Problems of delinquency other than sexual were rare and likewise easily and commonly identified by staff and parents. Excessive dependency was most often a complaint of staff members, as parents usually accepted it rather than regarding it as a problem. There was much accord in identifying problems of sexual development and behavior, with parents more concerned about these problems than the professionals.

Subject interests were generally those typical of adolescence, especially for the higher level retardates: cars, racing, mechanics and sports for the boys; domestic duties and social life for the girls. But there was an obvious lack of community facilities and organized activities for retardates to have much social contact.

The most disabling handicaps in this group were excessive dependency, immaturity, and lack of self-help skills. One of the major parental concerns was sexual behavior, and matching the child's interest with a realistic concept of his adult future. Preparation for adolescence and adulthood must be begun early and must be plain enough for the retardate to comprehend; parents should be aided here by doctors and other professionals.

In summary, the authors posited three areas as most important in dealing with adolescent retardates: establishment of a significant degree of independence, including mastery of self-help skills; guidance in areas of work training; counseling regarding sexual behavior, marriage and family planning.

5. Heber, Rick (Ed.). Special problems in vocational rehabilitation of the mentally retarded. Proceedings of a conference held in Madison, Wisconsin, November 3-7, 1963. Washington, D.C.: U.S. Government Printing Office, January, 1968.

The second section of this book offers some characteristics for evaluating the retarded worker by direct observation. Judgment should include observations of appearance; social poise, i.e. interaction, communication; affect, i.e. evidences of various emotions and their control; quality of relationship.

6. Jaffe, Jacob. Attitudes and interpersonal contact: Relationships between contact with the mentally retarded and dimensions of attitude. Journal of Counseling Psychology, 1967, 14, 482-484.

This study examined the relationship between contact with the mentally retarded and attitudes toward them. Previous studies demonstrate conflicting results from examining attitudes toward physically disabled and mentally retarded. Subjects were high school students, 67 of which had no previous contact with the mentally retarded, and 52 with contact. Attitudes were measured in four ways: a semantic differential evaluative factor, a strength-activity factor, a favorability trait score, and a social distance scale score. "Significant results were obtained on the Adjective Checklist between those with previous contact and those who had had no contact with retardates. Moderate to low inter-correlations indicate that the other three measurements were examining different dimensions of attitudes." Adjective Checklist results may indicate that

beliefs but not attitudes are changed by contact. Results also indicated that more research is needed on the multi-dimensions of attitudes.

7. Kanaar, Adrian C. Rehabilitating the handicapped adolescent. Paper read at the Tri-Organizational Convention, Buffalo, New York, July 17, 1962.

This is a general discussion of issues concerning the disabled adolescent, and might provide good introductory reading for non-professionals who will work with the group.

8. Olshansky, Simon. An examination of some assumptions in the vocational rehabilitation of the mentally retarded. Mental Retardation, February, 1969, 7(1), 51-53.

Olshansky has written a general article questioning a number of assumptions pertaining to the vocational rehabilitation of the mentally retarded. The important point to remember in reaction to the assumptions is that retardates should be given a chance to prove themselves, implying less reliance on records, tests, and the designation of "mentally retarded."

What are the implications of such an attitude? First, adoption of a more experimental approach to vocational evaluation, training, and job placement. Second, minimizing or avoiding the segregation of retardates as much as possible, both in school and workshops, and accepting their potential to fit in. Individuals should be encouraged to minimize their classification as retarded when dealing with people. Finally, a new concept of intelligence, viewing it as an ever-changing capacity of responding to different situations at different points of time, should be accepted.

9. Peck, John R. Nature, scope and magnitude of the problem of mental retardation. From: The Institute for Community Leadership in Mental Retardation, October 5, 1969.

This copy of a talk gives a broad overview of what's happening in the field, as well as what should be happening with regard to attitudes and actions in the future. Reading such as this might aid in the initial understanding of non-professionals.

10. Rotman, Charles B. and Stephen A. Golburgh. Group counseling mentally retarded adolescents. Mental Retardation, 1967. 5(3), 13-16.

The authors conducted an 8-month counseling experiment with 24 educable retardates. Although initially the patients were concerned primarily with adjusting themselves to a new role, many topics were covered once groups became accustomed to each other and the situation. Some issues discussed by the groups: family problems; loneliness; feelings of inferiority, instability; institutional problems; religion; hopes for the future; current events; school activities; work placement. The groups seemed to function as occasions for release, clarification, and even interpretation of feelings--opportunities which were not usually available to the patients, so they felt.

"We believe that our patients...came to know themselves better and were able to make use of this knowledge...It is our opinion that through group counseling, selected mentally retarded adolescents can learn more about themselves, others and human living by interacting with their peers and a counselor in a state school situation."

This article, in spite of a concern with educables, re-emphasized the retardate's basic human need to communicate and be listened to, especially in adolescence. Although the article does not relate a carefully designed project, it is useful in its awareness of retardate problems and one alternative of dealing with them.

11. Segal, Arthur. Some observations about mentally retarded adolescents. Children, 1967. 14(6), 233-237.

Observations of mentally retarded adolescents have shown that they encounter many questions, dilemmas, value conflicts, and decision demands universally associated with adolescence. The goals of vocation, marriage, and adulthood are intertwined, but the ability to achieve them is limited by the stigmatizing effect of the label assigned to retardates. Severely, moderately, and mildly retarded youth share these goals, although their interpretations of them and the resulting behavioral reactions will vary in accordance with their social ability, and the guidance and support received from adults.

12. Spradlin, Joseph E., Frederic L. Girade[illegible] and Henry Corte. Social and communication behavior of retarde[illegible] adolescents in laboratory situations. American Journal of Mental Deficiency, November, 1967, 72(3), 473-481.

The purpose of this study was to investigate communication, giving, and sharing in a two-person laboratory situation. Two subjects are placed in a situation in which one subject (the operator) delivers various combinations of reinforcement to himself and to the other subject (the receiver). The operator can make one of two responses in giving or sharing social sets; giving or sharing is determined by whether he makes a response which delivers reward to the receiver. In the communication experiment, the operator can make one of four responses, but if the operator and receiver are to obtain more than a chance amount of reward, the receiver must communicate which response is to be made. Data are analyzed by both group and individual pair methods.

Retarded adolescents as a group deliver rewards to their peers when it does not cost them to do so. Receivers with relatively high language skills make more correct responses in the communication situation than do receivers with relatively low language skills.

13. Sternlicht, M. Psychotherapeutic procedures with the retarded. In Ellis, Norman R. (Ed.) International Review of Research in Mental Retardation, Vol. II. New York: Academic Press, 1966, pp. 279-349.

This article from Ellis's collection discusses various psychotherapeutic techniques used with retardates of varying ages and IQ's, as well as the literature covering parental therapy.

14. U.S. Department of Health, Education and Welfare, Social and Rehabilitation Service; Rehabilitation on Services Administration. So You Are Going to Supervise a Mentally Retarded Employee. Washington, D.C.: U.S. Government Printing Office.

This is a short pamphlet that seeks to aid understanding of a mentally retarded employee, especially the first time around. The "chapter" headings are self-explanatory: What Are They Like?, What Assets Will They Bring to the Job?, What Problems Will They Bring to It?, How Do I Get Ready for my New Worker?, How Do I Start Him on the Job?, Do's and Don't's of Supervising the Retarded.

Motivation

Motivation is related to learning theory. A few studies examined attempted to test this variable specifically, although it is so intimately bound up with learning that some overlap is impossible to avoid in the bibliography. It is suggested that both sections are kept in mind at the same time for maximum benefit.

15. Ferguson, Robert G. Vocation training program in a residential treatment center. In Ayers, George E. (Ed.) New Directions in Habilitating the Mentally Retarded. Elwyn, Pennsylvania: Elwyn Institute Print Shop, 1967.

The author discusses student motivation and what encourages it. Jobs at the Devereux School where he is director are developed in successive steps and thus provide various degrees which are attainable and realistic. The student can achieve some success for himself and observe it as identifying him with others around him who are also successful.

Staff compliments are also important to motivation, insofar as they are realistic, i.e. based on the student's actual contribution.

Pay also functions as a motivating factor.

And the ultimate reward is obtaining a "real," off-campus job.

16. Hopkins, B.L. Effects of candy and social reinforcement, instructions, and reinforcement schedule leading on the modification and maintenance of smiling. Journal of Applied Behavior Analysis, 1968 1(2), 121-129.

Two retarded boys exhibited abnormally low rates of smiling. In the

first experiment, the frequency of the subject's smiling was first increased with candy reinforcement, but the frequency of the response did not decrease when candy reinforcement was terminated. When the subject wore a sign designed to make social interactions contingent on not smiling, the frequency of smiling decreased. The sign was then changed to make social interactions contingent on smiling and the rate of smiling increased. In the second experiment the subject initially never smiled. Establishment of a contingency for candy reinforcement did not increase this zero response rate. Instructing the subject to smile initially increased smiling, but the instructions then became progressively more ineffective. Candy reinforcement increased the rate of smiling to a normal range, but the rate of the response promptly decreased when this reinforcement was discontinued. Continuous candy reinforcement was again employed to increase the response rate and then progressively leaner schedules of variable-ratio candy reinforcement was again eliminated. Signs were employed to regulate social interactions and the rate of smiling was shown to be controlled by these interactions serving as reinforcers. (Journal abstract).

17. Huddle, Donald D. Work performance of trainable adults as influenced by competition, cooperation, and monetary reward. American Journal of Mental Deficiency, 1967, 72(2), 198-211.

The author set up an experiment to test two hypotheses concerned with effects of monetary reward, competition, and cooperation on production rates. Forty-eight trainables were divided into subgroups to examine individual, competition, and cooperation situations. The incentive of monetary reward was most effective, and it was noted that findings of studies on normals' reactions to incentives may be generalized to trainables. It was also found that several subjects continued in the positive attitudes toward work both outside of the experimental session and after the experiment was over. This result was not found in the no-reward group. Research investigating long term effects of incentives upon trainable performances would add valuable information. Different kinds of monetary rewards and payment schedules might also have their own effects. Findings indicated too that type of work grouping is not important as long as an incentive is provided.

The experimental task learned involved 17 sequential steps, and was taught with much repetition of terms, and encouragement of the subjects' teaching each other as well as attempting the task themselves. Subjects could eventually complete the 17 sequence task at the end of a 45-minute test period. "It appears that the earlier conclusions were supported which stated that the relative lengths of training time required may be a chief difference in the performance of the trainable retarded subject and the subject of much higher functioning level."

Study results support previous conclusions that trainable subjects can respond to incentives in essentially the same way as normals; trainables can learn simple sequential tasks; trainables require minimal supervision if the task is challenging; and intrinsic motivation alone cannot sustain interest and/or performance in trainables.

18. Kahn, Harris. Interaction of practice and rewards on motor performance of adolescent mental retardates. American Journal of Mental Deficiency, 1967, 72(3), 422-427.

This study concerns itself with determining whether retardates' poor motor performance is a manifestation of generalized deficiency or a function of slow adaptation to novel situations. Previous studies show that the retarded can approach a normal performance level with the advantage of practice. Slowness in learning a novel task may indicate that more learning can produce success with the task.

It seems that the retarded learning problem is more one of poor adaptability rather than poor ability. Since evidence shows that motor skill performance can be improved by learning, "it may be expected that both ultimate performance level and rate of improvement would be affected by the type of task, the practice schedule, and the incentive conditions, as well as by the interaction of these variables." This study undertook to investigate effects of the interaction of rewards and practice schedules upon the performance of retardates. It was found that no practice condition, reward condition, nor any combination of these appeared as superior to others in effect upon learning of any of the tasks. Some investigators have found the initial low performance implies more rapid improvement with practice; this study seems to support the viewpoint that inferior performers took longer to become accustomed to a new situation. Final scores correlated significantly with initial scores and with IQ, both individually and combined. Since here neither learning nor physiological limits appear to have been reached, it seems reasonable to expect further improvement if practice were extended.

In general, this study demonstrates that the manipulative performance ability of retardates initially does not represent ultimate level achievable through practice; that retardates may be capable of learning manual dexterity tasks to a level competitive with normals; and that there is reasonable basis for expectation that by using IQ, initial performance scores, and rate of improvement with practice, efficient predictors of motor skill performance may be developed.

19. McManis, Donald L. and Donald R. Bell. Retardate reward seeking or punishment avoiding under three types of incentives. American Journal of Mental Deficiency, 1968, 72(6), 844-850.

The purpose of the present study was to determine the stability of retardates' performances for reward seeking or punishment avoidance under each of three types of incentive - symbolic, verbal and monetary - and to test the generality of their performances across the incentives.

Sixty-seven girls and 83 boys, mean age 16 and mean IQ 67.68, participated in the experiment which examined the subjects' choice of situation. The experiment described showed that subjects found a situation in which they chose to actively eliminate punishment more reinforcing to behavior than one in which they merely avoided punishment by choosing to work on a reward associated task.

20. Meadow, Lloyd and E. Greenspan. Employability of lower level mental retardates. American Journal of Mental Deficiency, 1961, 62(5), 623-628.

This article related a project undertaken to test the feasibility for vocational rehabilitation of group of low level retardates. Ten young adult retardates were selected: 6 males and 4 females, aged between 19 and 31 (mean: 23) with IQ's between 47 and 60 (mean: 53) and no previous work experience, or severe physical handicaps. Each subject was counseled before entering the sheltered workshop program, and likewise one or both parents. A psychological test battery was administered.

The workshop program involved light hand assembly work, with the subjects closely supervised as to behavior, work habits and attitudes, reaction to supervisors, and ability to relate to co-workers. They were integrated into an already-existing program with other clients having a variety of handicaps. As the subjects adjusted, greater demands were made on them and tasks became more complex. Pay was raised as appropriate.

Growth was most evident in the area of each worker's satisfaction with himself, which was reflected in improved adjustment. Different vocational gains were made, but these still were not enough to qualify subjects for regular employment. Lack of reading skills was also a problem. Three subjects were considered ready for regular employment with an employer who could be patient and somewhat protective.

21. Zigler, Edward. An overview of research in learning, motivation and perception. Exceptional Children, 1962, 28.

Research in the learning, motivation and perception of mental retardates is essential to an understanding of their behavior and of their abilities. Research has tended to treat these former processes as unrelated which causes the results of such investigations to be difficult to interpret and restricted in value for generalization. There have appeared encouraging examples of new research: (1) a series of studies investigating the relative significance of chronological age, mental age, and intelligence quotient for learning in retarded individuals; (2) studies re-evaluating behavioral differences in learning and perception between familial and organic retardates; (3) between institutionalized and non-institutionalized retardates; (4) investigations of the relationship between ability to perform complex learning tasks and ability to utilize verbal cues; and (5) sutdies on the effect of stimuli from the physical environment on the behavior of retarded children.

Predicting Vocational Success

This section of the bibliography describes research into predicting the vocational success of the retarded. The main concern here is to find aspects of psychological, social , and vocational development that can be measured. These specific behaviors then become criteria by

which success can be predicted. Along with this kind of research goes that which examines actual behavior on a job as criterion, with other criteria acting as guideposts for vocational readiness.

IQ takes somewhat of a beating in some of this research, as some researchers seem to polarize around a viewpoint that IQ has been allowed too much importance in the past. Now other quantitative values should either take its place or be used in conjunction with it.

22. Appell, Melville, J., Clarence M. Williams, and Kenneth N. Fishell. Factors in the job holding abilty of the mentally retarded. Vocational Guidance Quarterly, 1964-1965, 13(2), 127-130.

This study concerned itself with characteristics distinguishing successfully employed retardates from unsuccessful ones. Two questions were proposed: what are some of the variables which differentiate retardates who remained employed 6 months or more from those who failed in employment, and, does descriptive information derived from case histories and other available records discriminate between successes and failures.

Subjects, from a Work Training Center, ranged in age from 17 to 38 years (mean: 23.3) and in WAIS IQ from 48 to 85 (mean: 67). They were divided into groups of 15: successes, who were employed 6 months or longer; failures, employed but discharged before six months; and undefined, who were employed less than 6 months but still on the job.

All subjects were compared on 6 variables. Days at the Center and days at work seemed to differentiate the successes from the failures. Successes were not more intelligent, nor had they attained a higher academic level, nor did they demonstrate greater finger dexterity. Age did not seem to differentiate successes either. (The lack of differentiation by intelligence may have been due to initial selection processes.) Overall, however, no single factor distinguished successes from failures.

A period of approximately 16 months in the Work Training Center proved to be optimal for competitive employment. From observing the subjects of this study, a majority of retardates would generally find employment in service occupations, so that training for such jobs seems indicated.

23. Bae, Agnes Y. Factors influencing vocational efficiency of institutionalized retardates in different training programs. American Journal of Mental Deficiency, 1968, 72(6), 871-874.

This study attempts to identify some of the variables associated with patient efficiency in vocational training programs. One hundred and thirteen subjects were assigned to eight training programs, and measured on twelve variables ranging from test scores to specific witnessed behaviors. "The results...seem to indicate [that] success of the retarded in the given area of training is not solely accounted for by his abilities and expressed interest. Instead, there appear to be

different motivational and personality traits which influence the retardate's performance for a specific program and his efficiency in that program." The results may indicate a needed emphasis in research and counseling on concepts of differential vocational efficiency rather than those of global vocational efficiency. This implies, for example, that a retardate unsuitable for one program may find a conducive place in another. The author suggests further improvements on this study to provide more comparison of the implications of pre-vocational success and failure.

24. Chaffin, Jerry D. Production rate as a variable in the job success or failure of educable mentally retarded adolescents. Journal of the Council for Exceptional Children, 1969, 35(7).

A two-part experiment was conducted to examine the influences of production rate on employers' judgments of the success or failure of retarded adolescent workers. The findings of the experiment suggest that rehabilitation workers use the production rate measure to indicate a client's status and to counsel him so as to prevent problems from later arising that may be interpreted incorrectly as personality or social problems. The measure is usable since it appears sensitive; it varied individually as other variables in the work situation stayed constant.

"Training should be carried out by clarifying exactly what is expected of the client in terms of *job duties, production standards, and quality* of work. Frequent checks regarding the difference between the client's present performance and his required performance then provide the structure for modification procedures."

25. Elkin, Lorne. Predicting productivity of trainable retardates on experimental workshop tasks. American Journal of Mental Deficiency, 1967, 71(4), 576-580.

The author decried the dearth of research on predictive techniques as applicable to trainable retardates, and seeks to alleviate the situation somewhat with his study which examines three facets of employability prediction: objectifying criteria for measuring on-the-job success; predicting work potential of institutionalized trainable retardates; and estimating the predictive value of work samples.

Fifty-eight trainables were given four experimental job tasks to be carried out over six consecutive days. These tasks made it possible to obtain an objective and continuous measure of performance on each of the jobs. Prediction of success was based on nineteen intellectual, psychomotor, biographical and vocational variables listed by the author.

It was found that success on each job was significantly related to success on the other three. There was significantly high intercorrelation between intellectual, psychomotor, and vocational measures indicating overlap between these predictive indices and success on the job. Multiple regression analysis indicated that a number of variables were making approximately equal contributions while no one predictor was

outstanding. The consistency of performance across tasks suggested that job complexity was not a major factor in determining which predictive indices would be significant. The well-coordinated, brighter subject was a superior worker regardless of job difficulty.

The predictive value of psychomotor, intellectual, and work sample measures was again demonstrated, with correlations supporting the hypothesis that a "general ability" factor encompassing intellectual and psychomotor skills is related to job success.

26. _____. Predicting performance of the mentally retarded on sheltered workshop and non-institutional jobs. American Journal of Mental Deficiency, 1968, 72(4), 533-539.

Predictive indices were related to the performance of mentally retarded adults on an experimental job and in non-institutional domestic employment. The "general ability" hypothesis that psychomotor and intellectual skills are closely related in retardates was supported. A failure to find predictive measures significantly correlated with success on domestic jobs was attributed to inadequate adjustment criteria and biased employee selection practices. (author's abstract)

27. Hogg, Genevieve M. Response patterns of non-educable retardates. Dissertation Abstracts, 1968, 28(9-A), 3507-3508.

Since investigators have presumed that trainable children are incapable of direct responses to test items, no standardized instrument for assessing such responses has been formulated. This particular study sought first, to modify, enlarge, and extend the "Individual Demonstration Test of General Skills" (Huskey) to measure more direct responses, producing the Developmental Test for Non-Educable Retardates; and second, to administer the modified test to 112 subject, 8 to 16 years of age, with IQ's ranging from 30 to 55.

As results of testing, significant statistical relationships were found between subtest and total test scores and subjects' IQ's as well as subjects' length of time in their program ranging from 1 to 60 months. Subtest and total test scores were also found to be related to means of IQ's, severity of physical handicap, and other factors not directly investigated here.

The author recommends research into the DTN-ER to make it a standardized instrument that psychologists can use in clinical and educational settings.

28. Kolstoe, Oliver P. An examination of some characteristics which discriminate between employed and not-employed mentally retarded males. American Journal of Mental Deficiency, 1961, 66(3), 472-482.

Two groups numbering 41 each of mentally retarded males 16 years of age and older who were former clients of the Employment Evaluation and Training Project were compared on a total of 91 characteristics of a background, intellectual, personality, social, and vocational

skill nature. Differences between the group which subsequently secured employment vs. the group which was not employed were noted. A clear superiority favoring the employed group in psychical, personality, social and work characteristics was found.

29. Levine, Samuel and Freeman F. Elzey. Personal, Social and Vocational Scale for the Mentally Retarded. Bethesda, Maryland: ERIC Document Reproduction Service, 1967.

The authors attacked the problem of lack of preliminary screening and evaluation procedures for sheltered workshops: "...there are no evaluational scales that have general utility in assessing the personal-social and vocational competence of the mentally retarded in varied workshop environments." This includes assessing an individual's progress as well as indicating future training needs.

The scale which the authors have formulated is in terms of actually performed tasks rather than presumed abilities or capacities, so that evaluational inference is kept to a minimum and that special test administration procedures (use of a psychologist, for example) are unnecessary.

The body of the article relates formulation of pretests, preliminary testing, and final forms: the test is reprinted in an appendix, and entitled "Vocational Competency Scale for the Mentally Retarded." It contains thirty items that almost anyone having contact with the individual can utilize due to its specificity with regard to tasks at hand.

30. Moore, James C. A Program for Institutionalized Mentally Retarded Adults. Final Report of Project No. RD-1699-G. Little Rock, Arkansas: The Arkansas Rehabilitation Service, December, 1968.

This project report relates procedures and results of intensive and extensive rehabilitation of mentally retarded institutionalized adults classified as "unsuitable for rehabilitation."

Using chi-square analyses, the researchers found that age, sex, race, county, psychiatric diagnosis, presence of physical disability, date of hospital admission, age of first admission, number of hospital admissions and length of time out of the hospital were not statistically significant as criteria for rehabilitation success. The number of years of schooling completed by the adults demonstrated some bearing on rehabilitation success, but by itself the presence or absence of schooling and its length does not predict success or failure. In this project, there was some IQ difference between "active" or still open cases and "closed" cases, the latter including those successfully and unsuccessfully rehabilitated. Length of time in the hospital produced the same group divisions. The presence or absence of a work history with these patients may have bearing on eventual rehabilitation outcome, if patients are given an opportunity for rehabilitation.

To analyze behavioral data, the project employed the Nebraska Patient

Inventory for retardates and special testing machines for work habits and job tolerance. Figures from the NPI revealed that only in the category of "Personal Status" did the difference between "rehabilitated" and "not rehabilitated" reach statistical significance. Use of the machines brought the staff to formulate a generalized factor of "work tolerance" to be measured. This factor involved a number of concepts: steadiness of work over a period of time, regardless of speed of task execution; accuracy of work; decreasibility of supervision; instruction retention; refraining from distracting or being distracted by other workers; punctuality; schedule observance. In general, "if a client shows reasonable consistent production of suitable quality over a period of time, he would be considered to have a higher level of work tolerance; if he shows inconsistent production of unsuitable quality over a period of time, he would be considered to rate lower in work tolerance."

Projects such as this contribute to the passing of the paradoxical situation of institutions treating patients suffering mainly from institutionalization. Both clinical and community resources are vital to aid this passing, and this particular work aims at the former area of rehabilitation.

31. Song, A.Y. and R.H. Song. Prediction of job efficiency of institutionalized retardates in the community. American Journal of Mental Deficiency, 1969, 73(4), 567-571.

This study, instead of attempting to study the usual dichotomies of vocational adjustment such as success or failure, concentrated exclusively on job efficiency as the criterion of vocational adjustment. Its purpose was to determine what patient variables contribute to job efficiency in the community. From the literature there appeared to be a consistent relationship between cognitive, work and personality, and demographic variables and vocational adjustment measures. It is predict d here that these same factors will predict job efficiency in community employment.

Forty-five male and female retardates employed full-time in the community for at least two weeks in unskilled manual jobs participated in the study. Subjects were placed on jobs according to 18 variables, and were rated in efficiency by employers.

Results confirm somewhat studies which have found IQ and work history as being important discriminators of vocational adjustment. Results also demonstrate that prediction for a part must involve several variables simultaneously. It is suggested that while intelligence or IQ alone is a poor predictor of job efficiency, it is the most important predictor when other relevant factors are taken into consideration.

32. Tobias, Jack. Evaluation of vocational potential of mentally retarded young adults. The Training School Bulletin, 1960, 56(4), 122-135.

This article discusses a long-range program that has attempted to identify factors inhibiting success in rehabilitation and to improve devices predictive of employability. Evaluation of workshop trainees enrolled in a New York workshop involved testing of learning extend-

ing over more than one trial. Ultimate achievement rather than speed of learning became an important evaluative variable.

Extended evaluation tests were constructed to measure indirectly personality variables that influence employability; seven work samples were selected to tap manipulative skills. Tests were administered in no particular order but with fairly standardized conditions of instruction. Instruction continued until the testee produced a perfect sample. There were three trials for each test. Time scores for each of the trials revealed individual rates for initial learning, rate of improvement, and ultimate efficiency.

WAIS scores were correlated with Total Evaluation Scores; additional correlations were computed between IQ and separate task ratings. Four of the tasks were related to level of intelligence. Tasks that were too simple introduced elements of fatigue and boredom which higher intelligence alone did not outweigh. Although there is a significant relationship between intelligence and productivity, this relationship is never so close as to permit the prediction of any individuals performance from a knowledge of IQ alone. On some tasks, other factors became more important than intelligence.

It was found that the evaluation tests were related, in that people who do well on one task tend to do relatively well on the others. Despite the seeming diversity of skills required, the test scores tend to repeat each other for any one individual. A common factor seemed to be present in most of the tests. But comparison of performance with previous trials supplied useful clues about an individual's deficits and strengths that are necessary for a full scale evaluation.

Rate of improvement seemed important as a prognostic factor. Although the group average of all the testees showed a consistent increase in productivity with continued practice, individual scores varied within a wide range. Correlation results indicated that there was no relationship between the level of intelligence and the percentage of improvement with practice: more severely retarded subjects demonstrated as good a capacity to improve as upper-level retardates.

Retardate Learning

Only recently have researcher delved into specific aspects of retardate learning, examining precisely why retardates learn more slowly than normals, and how they learn. Operant conditioning theory, based originally on Skinner's work, has become an encouraging area for further study in the last few years. Task breakdowns are an offshoot from the theory, and they have been shown particularly effective with lower level retardates.

This section of the bibliography includes some sample laboratory examinations of different kinds of retardate learning, and recent research on the technique of task breakdown based on operant principles.

33. Achenbach, Thomas and Edward Zigler. Cue learning and problem-learning strategies in normal and retarded children. Child Development, 1968, 39(3), 827-848.

This study examined the effects of two contrasting learning strategies: cue-learning and problem-learning. Experiment I, with 120 subjects, demonstrated that retardates rely on cues, even misleading ones, significantly longer than normals. Experiment II replicated the results of Experiment I and also demonstrated that retardates' reliance on the cue involved inhibition of learning rather than caution in responding. Persistent success and reinforcement for independent thought were tentatively found to lead retardates to give up reliance on cues as quickly as normals of the same mental ability.

34. Butterfield, Earl C. Serial learning and the stimulus trace theory of mental retardation. American Journal of Mental Deficiency, 1968, 72(5), 778-787.

It has been predicted from Ellis's stimulus-trace theory that retardates should learn serial lists less quickly than non-retardeds, and that both retarded as compared to non-retarded subjects and as fast as compared to slow learners should make relatively more errors at the middle positions of serial lists. Furthermore, these differences should be greater for lists with longer inter-item intervals. A review of the literature showed that these predictions have not been supported. "Serial learning studies are definitely not consistent with the predictions of stimulus trace theory, but they may not be strong evidence against it either." (There are a number of studies that examine this laboratory type learning, expecially concerned with serial lists.)

35. Cortazzo, Arnold and Robert Sansone. Travel training. Exceptional Children, 1969, 67-82.

This article recounts the development of a travel training program for trainable retarded adolescents and young adults from eight activity centers throughout the U.S., the subjects ranging in age from 17 to 40 (mean: 21) and in IQ from 12 to 55 (mean: 33). Dealing with parental objections, staff objections, and problems that cropped up were part of the program, as well as actually training the subjects in route identification facts, pedestrian techniques, social amenities, and the actual utilization of transportation facilities. The whole program took about one and a half months. Of the 378 trainees enrolled, 199 learned to travel independently. Successful trainees demonstrated a great deal of concomitant improvement in many other personal, social, and economic skills. For example, for many trainees the ability to travel ended their isolated restriction to their homes, and their parents developed more positive attitudes toward them.

"The benefits derived from this program [in spite of the amount of time and effort involved] suggest that we have a professional obligation to undertake this critical program phase in the sequential development of independent living skills in severely retarded individuals

36. Crosson, James E. A technique for programming sheltered workshop environments for training severely retarded workers. American Journal of Mental Deficiency, 1969, 73(5).

This article discussed application of operant behavior techniques in training the severely retarded and is based on the project report of Crosson and deJung described below. The technique involved breaking down motor tasks into discrete component behaviors so that ultimately completion of one component functions as a stimulus or cue for performance of the next.

The training procedure used immediate rewards to make stimulus component behaviors more prominent and to reinforce their performance. The trainer demonstrates component behaviors in proper sequence, which the retardate immediately imitates. Reinforcement is continued until cues emit proper responses, while trainer-produced reinforcers are gradually eliminated. "In this manner, as the number of discriminated operants units of behavior increase, a chained schedule is established such that reinforcement is contingent upon the completion of the entire sequence of responses."

Seven severely retarded vocationally naive subjects were trained with these procedures and re-tested at two and twelve months. Data suggests that this method is initially efficient and facilitates retention of training over time. Although the practical value of such a technique in the workshop setting has not been fully examined, preliminary applications with staff and graduate students suggest that the technique has general application.

37. Crosson, James E. and John E. deJung. The Experimental Analysis of Vocational Behavior in Severely Retarded Males. Bethesda, Maryland: ERIC Document Reproduction Service, 1968.

Three tasks were broken down into component parts for 22 vocationally naive retarded subjects, ranging in age from 18 to 30 and in IQ from 11 to 42. The trainer demonstrated each task step by step until subjects could perform two perfect trials in one session. A control and experimental group were formed from the 22, with the former under monetarily reinforced work conditions and the latter in typical workshop social reinforcement. Both groups were tested for task retention two months after the initial experimental groups.

The authors concluded that operant conditioning principles can be efficiently utilized to train retardates in specific vocational skills. Developing and writing the programs involved very little time, and could be done by non-professionals with minimal training. Experimental subjects could perform at least one task perfectly after two months without any stimulus exposure to tasks or environments.

IQ was found uncorrelated to task behavior in both groups. Task difficulty or complexity of behavioral demands were not critical functions in either acquisition rates or memory retention. Stimulus-response associations and spacing of extrinsic reinforcers constituted factors critically related to subject performance. Complex behavioral chains which can be successfully taught depend on adequate analyses of environments and prescriptions of discrete consequential events.

38. Denny, M. Ray. A theoretical analysis and its application to training the mentally retarded. In Ellis, Norman R. (Ed.) International Review of Research in Mental Retardation, Vol. II. New York: Academic Press, 1966.

This article put forth a theoretical analysis of retardate learning and described some applications. Retardate learning deficits include those of duration of attention, symbolic behavior, inhibition, and delayed response. Denny's theory represents an attempt to attack these specific deficits, while facilitating the learning of skills and behaviors. The theory includes eight "optimal conditions" for learning which the author explained: elicitation or specification of the correct response; immediate knowledge of results; differential feedback; stimulus generalization and positive transfer; distributed repetition and positive transfer; stimulus randomization; motivation; and sequential building. The more of these aspects that are covered in the learning process, the greater the importance of reinforcements in the retardate learning process, this particular theory maintains that other aspects of the process should be kept equally in mind.

39. Edmonson, Barbara, Henry Leland, John E. deJung, and Ethel M. Leach. Increasing social cue interpretations (visual decoding) by retarded adolescents through training. American Journal of Mental Deficiency, 1967, 71(6), 1017-1024.

This article related a curricular unit to educate moderately retarded junior high subjects in responding to non-verbal social communication.

The unit involved pupils in daily one hour periods of viewing and discussing slides illustrative of social signals; also in role playing and field trips intended to increase pupil awareness of the kinds of social cues which the non-retarded use as behavioral guides. To obtain measures of social cue comprehension, all groups were twice administered the Test of Social Inference (TSI), immediately prior to the 8-week treatment period and immediately following the treatment. Also, teacher ratings were obtained immediately preceding and at the end of the period. "Gain" scores were computed as differences between the pre- and post-treatment measures.

Significant difference in TSI gains by pupils in experimental classes over those in control classes supports the hypothesis that the social perceptual deficit of retarded adolescents is to some extent remediable. The argument that specifically directed educational curricula can lead to improved inferential abilities regarding social situations and to consequent improved social behaviors appears justified and merits further attention.

40. Gardner, James M. Behavior modification research in mental retardation: Search for an adequate paradigm. American Journal of Mental Deficiency, 1969, 73(6), 844-851.

The author criticised a number of studies of behavior modification

through operant conditioning on technical grounds, and drew guidelines for further research from the critiques. His critiques summarized the experimental aspects that a number of studies have violated: (1) the exact specification of all relevant independent variables; (2) proper sampling techniques; (3) use of adequate control procedures; (4) proper assessment of the dependent variable, and (5) evaluation of long term gains. Researchers, then, should make provisions for: "(1) direct and indirect measure of both specific and general changes in behavior; (2) individual as well as group presentation of results; (3) pre- and post-treatment evaluations, including periodic assessment to measure long term gains, and (4) multivariate manipulation of the independent variables, particularly techniques." Incorporating such procedures into studies of behavior modification, the author felt, would greatly increase the methodological precision currently lacking.

41. _____. Behavior Modification in Mental Retardation: An Annotated Bibliography. Columbus State Institute Behavior Modification Projects (An earlier version of this bibliography appeared as: Gardner, J.M. and Watson, L.S. Behavior modification in mental retardation: An annotated bibliography.) Mental Retardation Abstracts, 1969, 6(2), 215-219.

42. Gardner, William I. and Charlene Brandl. Reinforcement conditions and incidental learning in mentally retarded adolescents. American Journal of Mental Deficiency, 1967, 72(2), 215-219.

A group of 54 mildly retarded adolescents were utilized to investigate the relationship between various incentive-reinforcement conditions and the learning of irrelevant cues (incidental learning). Results of learning a series of forms showed better relevant learning with supportive variable reinforcement then with tangible reinforcement or no incentive. The results evidenced a sex difference too. Although small in magnitude, females in the no incentive and tangible incentive groups required more trials to reach criterion relevant learning than males; in the social reinforcement group females required fewer attempts. Tangible reinforcement condition (reward) results suggested that reward encouraged a more specific set to learn cues as directed, with a corresponding reduction in the attention or responsiveness to irrelevant cues.

43. _____. Use of punishment with the severely retarded: A review. American Journal of Mental Deficiency, 1969, 74(1), 86-102.

In dealing with the retarded, it is often difficult to utilize reinforcement therapy to eliminate behavior, due to the difficulty in analyzing what is reinforcing the behavior. An alternative to this method of behavior-change is punishment. The author reviews the literature on the subject and answers common questions about the technique. In most of the studies reviewed, he notes, subjects had choices of responses in the punishment situation as wellas receiving positive reinforcement for more suitable behavior.

He summarized literature findings: deceleration of behavior of the severely and profoundly retarded follows response contingent punishment; this deceleration is evidently not temporary when punishment is used in conjunction with techniques of behavior instatement and acceleration of prosocial responses; there is a suggestion that the intensity of punishment is related to a decrease in unwanted behavior, but this needs systematic experimentation; neither emotional nor behavioral disruption, nor social disruption appears to result from the use of punishment. Punishment seems most effective with the single specific behaviors occurring with little variation in frequency and type and not involving direct interaction with others; such behavior involving others requires longer treatment periods. General misbehavior appears least affected by punishment.

Although punishment as a behavior shaping technique will require more study, it seems to demonstrate some clinical value. It should only be used cautiously in carefully controlled situations.

44. Greene, Frances M. The acquisition and retention of meaningful and non-meaningful material by the retarded. Dissertation Abstracts, 1967, 28(4-A), 1296.

The author questioned the meaning of the term intelligence in use with retardates, postulating that the term should characterize behavior, not persons. "The extent to which the meaningfulness of the material determines the intelligence of the subject's learning and retention performances was the focus of the present investigation." Subjects were put through one, two or three learning experiments. All fourteen subjects made fewer acquisition and retention errors with meaningful as compared with nonmeaningful material. High and low IQ differences were more marked on nonmeaningful material, minimal on meaningful. All subjects but one maintained acceptable low error rate on meaningful items in all experiments.

"Support for the proposal that behaviors rather than persons be classified as intelligent was found in the intra-subject performance differences on the two types of items, the essential absence of inter-subject differences when the material was meaningful, and the uneven distribution of errors across both meaningful and nonmeaningful items found in the records of individual subjects."

45. Haywood, H. Carl. Retention of learned visual associations as a function of IQ and learning levels. American Journal of Mental Deficiency, 1968, 72(6), 828-838.

Experimentally naive institutionalized retardates at four IQ levels were trained in a group procedure by the study-test technique over fifteen presentations of a visual code task. Each IQ level was divided into the top, middle, and bottom thirds, according to the number of codes correctly recalled during the fifteen acquisition trials. Retention tests were given all subjects at post-training intervals of 1 hour, 24 hours, 1 week, 2 weeks, and 4 weeks. There were no differences among IQ levels in either training or retention performance.

Those in any IQ group who make more correct responses during acquisition retained the learned associations best and appeared to forget them at a slower rate. (Journal abstract)

46. Kliebhan, Sister Joanne Marie. Effects of goal-setting and modeling on job performances of retarded adolescents. American Journal of Mental Deficiency, 1967, 72(2), 220-226.

This experiment involved the testing of two motivational techniques: Expectancy and Imitation. The former theory was utilized to investigate the motivational effect of verbal goal setting on production rate. The latter theory encourages production rate through observation of a model and consequent imitation. Three hypotheses were tested: expectancy or goal setting should yield greater production and better quality work than would obtain otherwise; imitation of a model should yield greater prediction and better quality work than would obtain otherwise; goal setting should yield greater production and better quality results than imitation, assuming that personal motivation or competition with oneself is more effective than social motivation or competition with another.

The two techniques were found capable of augmenting the work potential and job performance of adolescent retardates. Positive gains noted when each of the experimental techniques was employed independently suggest that a combination of both social learning models might effect even greater gains in performance.

47. Peterson, Craig M. Positive Reinforcement in the Vocational Training of a Trainable Mental Retardate: A Case Report, Working Paper No. 33. Eugene, Oregon: Rehabilitation Research and Training Center in Mental Retardation, University of Regon, August, 1969.

This report is a case study of a 19 year old male who was trained utilizing the operant technique of demonstrating component parts of a job and rewarding each acquired step.

After six months, production rate continued above criterion level, although number of errors had also increased. Nonetheless, "with the proper techniques, trainable retardates are capable of learning more than it was traditionally assumed."

48. Spicker, Howard H. Research implications: Selected factors influencing learning and retention abilities of the mentally retarded. Education and Training of the Mentally Retarded, 1966, 1(2), 92-94.

The assumption that retardates learn more slowly and retain less well than normals is being questioned. This paper is to synthesize recent studies to determine some of the factors which affect acquisition and retention of knowledge and to indicate how these factors might be applied by teachers.

Studies show that acquisition of knowledge depends on the complexity of what is to be learned while retention of knowledge depends on the amount of overlearning that has taken place. The retarded seem to learn as rapidly as normals when material is relatively simple or familiar to them. Complex and/or unfamiliar (not necessarily abstract material makes the retarded fall behind normals. It should also be noted that the learning of a process does not automatically imply the learning of its application. Overlearning, it is cautioned, is not merely repetition, but should ideally be the result of material presented sequentially in a variety of contexts, an example of which is given in the article.

49. White, Owen R. The Analysis and Programming of Vocational Behavior, Working Paper No. 17. Eugene, Oregon: Rehabilitation and Research Training Center in Mental Retardation, University of Oregon, August, 1968.

This paper formulated the operant technique of breaking a job task down into component actions, and offers a detailed example with bakery job helper. The author suggests that such training can take place in either community or sheltered workshop; that such trainers utilizing the task breakdown are themselves easily trained; that both trainers and trainees have proved effective and successful.

Other Related Projects, n.e.c.

This section of the bibliography gives a sample of the kinds of project which have been or are being carried out. Included are summaries of relevant studies.

50. Geteles, Frances, Arthur Bierman, Caesar Gaza, Elizabeth Kelly and Herbert Rusalem. A Cooperative Vocational Pattern for In-School Mentally Retarded. Final Report of Project No. RD-1189. Washington, D.C.: The Vocational Rehabilitation Administration, Department of Health, Education and Welfare, N.D.

Although the individuals involved in this project were in general of a much higher levels than the girls in our project, there are here some good suggestions to keep in mind when considering working with other community agencies, as, for example, a grant request would include.

First, any personnel from different agencies to be involved in a project should be involved also in initial planning sessions. In this particular project, agency staff members were simply handed their project responsibilities as added required duties. This led to misunderstanding and resistance which may have been alleviated by consultations before the introduction of the program.

Second, it may be wise to include liaison personnel on project staffs, who could perform some of the extra work required by a cooperative project as well as keep participating agencies informed as to project activity. This particular project found a working liaison individual helpful both for communication and performance of needed duties that regular personnel had difficulty fitting into time schedules.

Third, the possibility of extra work on the part of existing personnel should be examined carefully, so that if extra time or effort is required of agency or project staff, both time and financial reimbursement may be allowed for.

51. Harvey, Jasper. Special Class Curriculum and Environment and Vocational Rehabilitation of Mentally Retarded Young Adults. Final Report of Project No. RD-842, Vocational Rehabilitation Administration, Department of Health, Education and Welfare, November 1964.

A description of demonstration project to establish within existing rehabilitation agencies sheltered workshops to train mentally retarded adults for work.

52. Khoury, Louis M. and Robert R. Mayer. Analysis of Gaps in Service to the Mentally Retarded as Experienced by Information-Consultation Service for the Retarded. Rhode Island Council of Community Services, Inc., May, 1964.

This manual is an analysis of services provided, and those not provided, to the retarded in Rhode Island. It consists mostly of tabulations of individuals served.

53. Klapper, Morris. The Effectiveness of Early Application of Vocational Rehabilitation Services in Meeting the Needs of Handicapped Students in a Large Urban School System. Final Report of a 5-Year Collaborative Study. Albany, New York: State University of New York, June, 1968.

This is a report that is explained by its title. It concerns itself with the educable retarded.

54. Lang, J.E. New Work Opportunities for the Mentally Retarded. Final Report of Project No. RD-2031. Washington, D.C.: National Association of Sheltered Workshops and Homebound Programs, Inc., November, 1967.

This report described a project to demonstrate that the educable retarded could manufacture marketable materials and make a profit from them.

55. Lewis, Patricia F. A Cooperative Education or Rehabilitation Work-Study Program for Educable Mentally Retarded: The Essex Plan. Final Report of Project No. RD-1743, December, 1967.

Title describes the project report.

56. Office of Vocational Rehabilitation, U.S. Department of Health, Education and Welfare. Preparation of Mentally Retarded Youth for Gainful Employment. A Study Sponsored Jointly by the U.S. Office of Vocational Rehabilitation and the Project on Technical Planning of the American Association on Mental Deficiency. Washington, D.C.: U.S. Government Printing Office, 1959.

This report summarized various vocational programs for the mentally retarded throughout the country. It also presented papers from a conference discussing issues of retardate rehabilitation. Concern here focused on educables.

57. _____. Rehabilitation and Research in Retardation. Proceedings of a Conference on the Vocational Rehabilitation of the Mentally Retarded, February, 1960.

Title describes this book--again concerned with higher level retardates.

58. _____. A Report on the Institute on Sheltered Workshop Services for the Mentally Retarded, February, 1961.

Emphasis here on the Goodwill-type workshop and its potential for rehabilitating the higher level retardate.

59. Ricker, Lawrence H. A Comparison of Three Approaches to Group Counseling Involving Motion Pictures with Mentally Retarded Young Adults. Report of VRA Project No. RD-989. Tampa, Florida: MacDonald Training Center Foundation, Inc., 1967.

This project was formulated to demonstrate a new training method leading to more rapid improvement in social-emotional maturity of retardates, for whom this kind of growth is usually a major difficulty. Specifically, the method involved the use of group counseling plus the sound motion picture feedback

of some counseling sessions as a part of subsequent sessions. The ultimate purpose was to discover if this training technique would improve the vocational success of these individuals. The subjects involved were higher level retardates.

60. Rogers, D.P. Development of a State-Wide Program for the Vocational Rehabilitation of the Mentally Retarded. Report of OVR Demonstration Grant, Project No. RD-537. Charleston, West Virginia: 1962.

This is a report on a vocational rehabilitation program developed for West Virginia. Emphasis was on training educables.

61. School District # 25, Pocatello, Idaho. On The Job Training Program: Educable Mentally Retarded. Final Report, January, 1968.

This is a report on setting up a special training program for educables in cooperation with School District # 25.

62. Shulman, Lee S. The Vocational Development of Mentally Handicapped Adolescents: An Experimental and Longitudinal Study. Chicago, Illinois and East Lansing, Michigan: Jewish Vocational Service of Chicago in collaboration with Michigan State University, 1967.

This study of vocational rehabilitation and adjustment in the Chicago agency again concerned itself with educables.

63. Winchell, W.G. and W.R. Phelps. Out of the Shadows: A Program of Evaluation and Prevocational Training for Mentally Retarded Young Adult Females. Charleston, West Virginia: State Board of Vocational Education, June, 1965.

This is the final report of a project on evaluation and prevocational training for educable young adult females. Part of the accomplishment of this project was that the young women learned much about independent self-care and household tasks.

Miscellaneous Publications, n.e.c.

This section contains a few article summaries with ideas that seemed relevant to both this project and any future outgrowths of it.

64. Bevan, John. Nondirective activities for the mentally handicapped: Freedom, reflection of attitudes help pupils grow, learn. Chicago Schools Journal, May, 1960, 41(8), 379-384.

A teacher of an advanced division of the mentally handicapped in a Chicago public school tells of an activities program using the nondirective approach, fostering self-sufficiency in students and making them responsible for what occurs in the program. Essential to successful conduction of nondirective activities is a regular time allotment, strictly followed. Secondly, pupils should understand that the time is primarily theirs, and that they will have considerable freedom in choosing how to use it. Two activity projects are described to illustrate application of the nondirective theory. Pupils participating were 10 boys and 5 girls, all mentally retarded and over 12 years of age.

65. Cohen, Julius S. Employer attitudes toward hiring mentally retarded individuals. American Journal of Mental Deficiency, 1963, 67, 705-713.

Two hundred and fifty-three questionnaires were distributed to obtain data on employer schooling, vocational contact with the retarded, realistic concept of retardation, and attitudes toward hiring the retarded. The 177 returned questionnaires indicated that employers generally had post-high school education; that those experienced with the retarded evidenced little dissatisfaction; that respondants were relatively well-informed about retardation.

66. Gilbreth, Lillian M. Management in the Home. Revised and enlarged edition. New York: Dodd, Mead and Company, 1960.

Mrs. Gilbreth devoted her book to methods for making the running of a house easier, more economical, and less a source of family stress. She emphasized initial effort at change with continued openness in thinking of ways to accomplish what must be done. Her main concerns, as should be any housewife's, were time, money, energy, and the practicial budgeting of all three. Her book detailed this budgeting.

She suggested ways of looking at household tasks to enable the homemaker to organize herself, her procedures, her equipment, her available storage space, her home's lay-out, her working conditions and surroundings to the most economical advantage for the whole family. She offered ways to initiate and continue the suggestions with minimal family resistance, while ever encouraging future-oriented thinking. The final chapter is devoted to suggestions and encouragement particularly for the handicapped housewife.

The book appeared not directly connected with this project, for its suggestion are aimed specifically at the housewife. If during the course of training there might be some difficulty with a task's procedure, the book might be consulted for suggestions as to making the process easier. For example, on page 65 the author offers an economical method of making beds. But any suggestions to the housewife based on material in the book would necessarily preclude an honest relationship between her and the professional supervisor which would allow a certain freedom in offering alternatives to the housewife's own way of doing things. If problems crop up related to housekeeping efficiency, perhaps a housewife would be amenable to reading the book on her own and adapting herself from there.

67. Martinson, Melton C. Education for trainable children: An opportunity - IMC Network Report. Exceptional Children, December, 1967, 293-297.

The author discussed some of the activities one must perform in formulating a program for the trainable mentally retarded. Although the bulk of his article is concerned with where we are and where we should go in the developmental aspects of educating trainable children, and with the utilization of the regionally based IMC network, his outline of the essentials for a total program may be good to keep in mind: (1) specify purposes of the program; (2) specify what the areas are in which training is to modify behavior; (3) designate specific behaviors essential to the above areas; (4) identify specific behavioral components to be achieved; (5) develop curriculum content, including techniques, methodologies, materials; (6) organize program,

especially administrative aspects; (7) assess and evaluate; (8) adapt, refine, extend the program while it is in progress.

68. Sutton, Jack. Determination of the world of work for the mentally retarded. In Ayers, George E. (Ed.) New Directions in Habilitating the Mentally Retarded. Elwyn, Pennsylvania: Elwyn Institute Print Shop, 1967.

Mr. Sutton's article is of worth for two aspects of working with retardates that he touches upon briefly.

The first area is evaluation of readiness to work. The personnel of a training program at San Francisco State College have formulated an evaluation scale including some specifics that might be valuable for other programs. This scale includes measurements for individual ability to initiate tasks, to remember and follow verbal instructions, to express knowledge of the job, to specify what is unclear, to remember and request appropriate working materials, to perform tasks within specified time limits, to improve work with experience, to follow safety instructions, to correct errors about which one has been advised, to seek help when needed, to volunteer help when it is needed, to report accidents which may occur.

Mr. Sutton also mentioned the need for community education about mental retardation. In conducting an employment training program, personnel should publicize the program's efforts and needs to any and all community groups that may contain a potential employer. And educators should learn to utilize selling techniques to the extent of providing much information on their clients to whomever may need it. "Don't be afraid to sell your products. You will have plenty of time later to sit back and enjoy the reflected glory of the students in the community."

Bibliographies and Directories

The following entries are collections of studies or articles utilized to examine major activities in the field of retardation. Some of these publications also communicated the emphasis in mental retardation research and activity to aid in formulating an overall viewpoint.

69. Ayers, George A. (Ed.) New Directions in Habilitating the Mentally Retarded. Elwyn, Pennsylvania: Elwyn Institute Printing Shop, December, 1967.

A series of articles that make up the proceedings of the Vocational Rehabilitation subsection meetings held at the American Association on Mental Deficiency Conference in Denver, Colorado, May 15-20, 1967.

70. DiMichael, Salvatore G. New Vocational Pathways for the Mentally Retarded. Washington, D.C.: American Personnel and Guidance Association, 1966.

A collection of articles from a symposium on memory of Abraham Jacobs, discussing vocational training and adjustment and other services to the retarded.

In general, the articles encouraged: new and better designed studies, particularly longitudinal, that provide good feedback to educators and rehabilitation workers; integration in school systems of programs of pre-vocational and work-study activities in connection with community and agency resources; flexible and diverse programs that allow for cultural, political and environmental factors.

71. Ellis, Norman R. (Ed.) International Review of Research in Mental Retardation, vol. II. New York: Academic Press, 1966.

The second volume of a collection of articles treating various aspects of mental retardation and experiments carried out in the field, both in the United States and elsewhere.

72. Fraenkel, William A. The Mentally Retarded and their Vocational Rehabilitation: A Resource Handbook. Washington, D.C.: National Association for Retarded Children, 1961.

A collection of articles to be used as a guide for counselors of the retarded. Covers the general philosophy of helping retardates, the vocational rehabilitation agency and its procedures, the counselor in relation to the client, resources for the counselor, the special needs of severely and multiple handicapped clients, placement and follow-up.

73. Secretary's Committee on Mental Retardation. Mental Retardation Activities of the U.S. Department of Health, Education and Welfare. Washington, D.C.: U.S. Government Printing Office, January, 1968.

A summary of activities and publications for 1967.

74. _____. Mental Retardation Activities of the U.S. Department of Health, Education and Welfare. Washington, D.C.: U.S. Government Printing Office, January, 1969.

A descirptive summary of activities and publications for 1968.

75. U.S. Department of Health, Education and Welfare, Public Health Service. Research Grants Index, Fiscal Year 1968, Vols. I and II. Bethesda, Maryland: National Institutes of Health, Division of Research Grants, 1968. (Available from U.S. Government Printing Office as Public Health Service Publication No. 925).

76. _____. Mental Retardation Publications of the Department of Health, Education and Welfare. Washington, D.C.: U.S. Government Printing Office, January, 1969.

An annotated bibliography of publications, including instructions for where to obtain the articles described.

Summary

The Research Department of the Curative Workshop of Milwaukee assisted by a grant from the Wisconsin Association for Retarded Children tried placing trainable retarded adolescent girls in normal households for training in domestic tasks rather than in a sheltered workshop. Twelve household tasks were broken down into their component parts. Four trainable adolescent girls were placed in four households for a period of three weeks to receive training in performing household tasks. A training supervisor explained training principles to the housewives and supervised them, as well as presenting the program to the trainees' mothers.

The girls were trained following the same general pattern throughout the training period. A task was introduced following the analysis and practiced during the first week. As the girls accomplished one task, a new one was introduced, while the old one was reviewed. A review of all tasks learned was undertaken during the last week. The girls were paid a small hourly wage by their respective housewife-trainors.

Trainee profiles, including available school records were prepared, describing their progress in training.

Four months after the training a follow-up study was done using a structured interview schedule by an interviewer who had not been connected with the project. The follow-up findings indicated satisfaction with the outcome of the training by all of those involved. Most of those interviewed judged that eventual employment in domestic work was feasible for the girls.

Project consultants and staff members met periodically to discuss planning for and results of the project. A section describing some of the potentially applicable ideas from these conferences is also included in this report.

An extensive review of the literature was undertaken to link theory with practice. Relevant selections from the professional literature have been presented in three ways: 1. a review of the literature, 2. an annotated bibliography and 3. a listing of references.

REFERENCES

In this section, we have listed all the professional literature that we felt was even tangentally relevant to this project. This list is the most comprehensive of the bibliographical sections. As an aid to cross-referencing, we have employed the letter "R" to indicate that the article was discussed in Chapter 6, "A Review of the Literature;" and the letter "A" to indicate that the work was summarized in Chapter 7, "A Selected Annotated Bibliography."

A Achenbach, Thomas and Edward Zigler. Cue learning and problem-learning strategies in normal and retarded children. Child Development, 39(3), 827-848.

R,A Appell, Melville J., Clarence M. Williams and Kenneth N. Fishell. Factors in the job holding ability of the mentally retarded. Vocational Guidance Quarterly, Winter, 1964-1965, 13(2), 127-130.

A Ayers, George E. (Ed.) New Directions in Habilitating the Mentally Retarded. Proceddings of the Vocational Rehabilitation Subsection Meetings Held at the American Association on Mental Deficiency Conference, Denver, Colorado. May 15-20, 1967. Elwyn, Pennsylvania; Elwyn Institute Print Shop, December, 1967.

R,A Bae, Agnes Y. Factors influencing vocational efficiency of institutionalized retardates in different training programs. American Journal of Mental Deficiency, May, 1968, 72(6), 871-874.

A Beven, John. Nondirective activities for the mentally handicapped: Freedom, reflection of attitudes help pupils grow, learn. Chicago Schools Journal, May, 1960, 41(8), 379-384.

A Blackwell, Robert B. A study of effective and ineffective teachers of the trainable mentally retarded. Dissertation Abstracts, October, 1968, 29(4-A), 1147.

A Butterfield, Earl C. Serial learning and the stimulus trace theory of mental retardation. American Journal of Mental Deficiency, 1968, 72(5), 778-787.

R,A Chaffin, Jerry D. Production rate as a variable in the job success of failure of educable mentally retarded adolescents. Journal of the Council for Exceptional Children, March, 1969, 35(7).

A Cohen, Julius S. Employer attitudes toward hiring mentally retarded individuals. American Journal of Mental Deficiency, 1963, 67, 705-713.

A Cortazzo, Arnold and Robert Sansone. Travel training. Teaching Exceptional Children, Spring, 1969, 67-82.

R,A Crosson, James E. and John E. deJung. The Experimental Analysis of Vocational Behavior in Severely Retarded Males. Bethesda, Maryland: ERIC Document Reproduction Service, July, 1968.

R,A Crosson, James E. A technique for programming sheltered workshop environments for training severely retarded workers. American Journal of Mental Deficiency, March, 1969, 73(5), 814-818.

R,A Denny, M. Ray. A theoretical analysis and its application to training the mentally retarded. In Ellis, Norman R. (Ed.) International Review of Research in Mental Retardation, Vol. II. New York: Academic Press, 1966, 1-27.

A DiMichael, Salvatore G. New Vocational Pathways for the Mentally Retarded. Washington, D.C.: American Personnel and Guidance Association, 1966.

A DiNola, Alfred J. T.M.R. Performance Profile for the Severely and Moderately Retarded Record Booklet. Ridgefield, New Jersey; Reporting Service for Exceptional Children, N.D.

R,A Edmonson, Barbara, Henry Leland, John E. deJung and Ethel M. Leach. Increasing social cue interpretations (visual decoding) by retarded adolescents through training. American Journal of Mental Deficiency, May, 1967, 71(6), 1017-1024.

R,A Elkin, Lorne. Predicting productivity of trainable retardates on experimental workshop tasks. American Journal of Mental Deficiency, January, 1967, 71(4), 576-580.

A _____. Predicting performance of the mentally retarded on sheltered workshop and non-institutional jobs. American Journal of Mental Deficiency, January, 1968, 72(4), 533-539.

A Ellis, Norman R. (Ed.) International Review of Research in Mental Retardation, Vol. II New York: Academic Press, 1966.

A Ferguson, Robert G. Vocational training program in a residential treatment center. In Ayers, George E. (Ed.) New Directions in Habilitating the Mentally Retarded. Elwyn, Pennsylvania: Elwyn Institute Print Shop, December, 1967.

A Fisher, Gary M. Sexual identification in mentally subnormal females. American Journal of Mental Deficiency, 1961, 66(2), 266-269.

A Fraenkel, William A., Ph.D. The Mentally Retarded and Their Vocational Rehabilitation - A Resource Handbook. National Association for Retarded Children, 1961.

Gardner, James M. The behavior modification model. Mental Retardation, 1968, 6(4).

A _____. Behavior Modification in Mental Retardation: An Annotated Bibliography, part of the Columbus State Institute Behavior Modification Projects. Columbus, Ohio: Columbus State Institute, 1601 West Broad Street, N.D.

A _____. Behavior modification research in mental retardation: Search for an adequate paradigm. American Journal of Mental Deficiency, May, 1969, 73(6), 844-851.

A Gardner, William I. and Charlene Brandl. Reinforcement conditions and incidental learning in mentally retarded adolescents. American Journal of Mental Deficiency, September, 1967, 72(2), 215-219.

A _____. Use of punishment procedures with the severely retarded: A review. American Journal of Mental Deficiency, July, 1969, 74(1), 86-102.

Gelhart, Robert P. A Bibliography on Mental Retardation, Nos. 1 and 2. Bethesda, Maryland: ERIC Document Reproduction Service, November, 1968.

A Geteles, Frances, Arthur Bierman, Caesar Gaza, Elizabeth Kelly and Herbert Rusalem. A Cooperative Vocational Pattern for In-School Mentally Retarded, Final Report of Project No. RD-1189. Washington, D.C.: The Vocational Rehabilitation Administration, Department of Health Education and Welfare, N.D.

A Gilbreth, Lillian M., Orpha Mae Thomas and Eleanor Clymer. Management in the Home, Revised Edition. New York: Dodd, Mead and Company, 1960.

R,A Greene, Frances M. The acquisition and retention of meaningful and nonmeaningful material by the retarded. Dissertation Abstracts, October, 1967, 28(4-A).

Gross, Linda. The Development of a Physical Education Program for Trainable Mentally Retarded Children and Young Adults. Birmingham, Alabama: Opportunity Center School, August, 1967.

A Hammar, S.L., M.D. and K.E. Barnard. The mentally retarded adolescent. Pediatrics, November, 1966, 38(5), 845-857. (Available from Children's Bureau, U.S. Department of Health, Education and Welfare, Washington, D.C. 20201).

A Harvey, Jasper, Ph.D., Frank McMillan and Ladean E. Ebersole. Special Class Curriculum and Environment and Vocational Rehabilitation of Mentally Retarded Young Adults, Project No. RD-842. Washington, D.C.: Vocational Rehabilitation Administration, Department of Health, Education and Welfare, November, 1964.

R,A Haywood, H. Carl and Laird W. Heal. Retention of learned visual associations as a function of IQ and learning levels. American Journal of Mental Deficiency, 1968, 72(6), 828-838.

A Heber, Rick (Ed.) Special Problems in Vocational Rehabilitation of the Mentally Retarded. Proceedings of a conference held in Madison, Wisconsin, November 3-7, 1963. Washington, D.C.: U.S. Government Printing Office for the Department of Health, Education and Welfare, January, 1968.

A Hogg, Genevieve M. Response patterns of non-educable retardates. Dissertation Abstracts, March, 1968, 28(9-A), 3507-3508.

A Hopkins, B.L. Effects of candy and social reinforcement, instructions, and reinforcement schedule leading on the modification and maintenance of smiling. Journal of Applied Behavior Analysis. 1968, 1(2), 121-129.

R,A Huddle, Donald D., Ed.D. Work performance of trainable adults as influenced by competition, cooperation and monetary reward. American Journal of Mental Deficiency, September, 1967, 72(2) 198-211.

R,A Jaffe, Jacob. Attitudes and interpersonal contact: Relationship between contact with the mentally retarded and dimensions of attitude. Journal of Counseling Psychology, 1967, 14, 482-484.

R,A Kahn, Harris and Arthur D. Burdett. Interaction of practice and rewards on motor performance of adolescent mental retardates. American Journal of Mental Deficiency, November, 1967, 72(3), 422-427.

A Kanaar, Adrian C. M.D. Rehabilitating the Handicapped Adolescent. Buffalo, New York: Paper from Tri-Organizational Convention, July, 1962.

Kaplan, Bidney. The growing importance of the trainable in an institutional setting. American Journal of Mental Deficiency, November, 1961, 66 (3), 393-398.

A Khoury, Louis M. and Robert R. Mayer. Analysis of Gaps in Service to Mentally Retarded as Experienced by Information-Consultation Service for the Retarded. Rhode Island Council of Community Service, Inc., May, 1964.

A Klapper, Morris. The Effectiveness of Early Application of Vocational Rehabilitation Services in Meeting the Needs of Handicapped Students in a Large Urban School System, Final Report of a 5-year collaborative study. Albany, New York: State University of New York, June, 1968.

R,A Kliebhan, Sr. Joanne Marie. Effects of goal-setting and modeling on job performance of retarded adolescents. American Journal of Mental Deficiency, September, 1967, 72(2), 220-226.

R,A Kolstoe, Oliver P. An examination of some characteristics which discriminate between employed and not-employed mentally retarded males, American Journal of Mental Deficiency, November, 1961, 66(3), 472-482.

Korst, J.W. and Orvis C. Irwin. Immediate memory span of mentally retarded children. Cerebral Palsy Journal, 1968, 29(3), 10-11.

A Lang, J.E. Final Report: New Work Opportunities for the Mentally Retarded. Washington, D.C.: National Association of Sheltered Workshops and Homebound Programs Inc., November, 1967.

A Levine, Samuel and Freeman F. Elzey. Personal, Social and Vocational Scale for the Mentally Retarded. Bethesda, Maryland: ERIC Document Reproduction Service, November, 1966.

A Lewis, Patricia F. A Cooperative Education/Rehabilitation Work Study Program for Educable Mentally Retarded, Final Report of Project No. RD-1743. New Jersey, N.D.

A Martinson, Melton C. Education for trainable children: An opportunity. IMC Network Report, Exceptional Children, December, 1967, 293-297.

A McManis, Donald L. and Donald R. Bell. Retardate reward seeking or punishment avoiding under three types of incentives. American Journal of Mental Deficiency, May, 1968, 72(6), 844-850.

A Meadow, Lloyd and Eugene Greenspan. Employability of lower level mental retardates. American Journal of Mental Deficiency, 1961, 65(5), 623-628.

Miller, Arnold and Eileen E. Miller. Symbol accentuation: The perceptual transfer of meaning from spoken to printed words. American Journal of Mental Deficiency, 1968, 73(2), 200-208.

R,A Moore, James C. A Program for Institutionalized Mentally Retarded Adults. Final Report of Project No. RD-1699-G. Little Rock, Arkansas: The Arkansas Rehabilitation Service, December, 1968.

A Office of Vocational Rehabilitation, U.S. Department of Health, Education and Welfare. Preparation of Mentally Retarded Youth for Gainful Employment. A Study Sponsored Jointly by the U.S. Office of Vocational Rehabilitation and the Project on Technical Planning of the American Association on Mental Deficiency. Washington, D.C.: U.S. Government Printing Office, 1959.

A _____. Rehabilitation and Research in Retardation. Proceedings of a conference on the Vocational Rehabilitation of the Mentally Retarded. February, 1960.

A _____. A Report on the Institute on Sheltered Workshop Services for the Mentally Retarded. Goodwill Industries of America, Inc., February, 1961.

A Olshansky, Simon. An examination of some assumptions in the vocational rehabilitation of the mentally retarded. Mental Retardation, February, 1969, 7(1), 51-53.

Overs, Robert P., Ph.D. Domestic household worker problem needs research. Employment Service Review, May, 1967, 4(50.

A Peck, John R., Ph.D. Nature, scope and magnitude of the problem of mental retardation. Talk given at the Institute for Community Leadership in Mental Retardation, October, 1969.

Perlin, Arthur B. The Socio-Cultural Ecology of Upper Level Mental Retardation, Working Paper No. 23. Eugene, Oregon: Rehabilitatinn Research and Training Center in Mental Retardation, University of Oregon, January, 1969.

R,A Peterson, Craig M. Positive Reinforcement in the Vocational Training of a Trainable Mental Retardate: A Case Report, Working Paper No. 33. Eugene, Oregon: Rehabilitation Research and Training Center in Mental Retardation, University of Oregon, August, 1969.

Phelps, William R. Rehabilitation counselor's opinion regarding effectiveness of special project services for the mentally retarded. Adolescence, Summer, 1969, 4(14).

A Ricker, Lawrence H., Calvin M. Pinkard, Jr., Alden S. Gilmore and Charles F. Williams. A Comparison of Three Approaches to Group Counseling Involving Motion Pictures with Mentally Retarded Young Adults. Vocational Rehabilitation Administration Project No. RD-989. Tampa, Florida: MacDonald Training Center Foundation, Inc., 1967.

A Rogers, D.P., Ph.D. Development of a Statewide Program for the Vocational Rehabilitation of the Mentally Retarded. Office of Vocational Rehabilitation Demonstration Grant, Project No. RD-537. Charleston, West Virginia: February, 1962.

A Rotman, Charles B. and Stephen J. Golburgh. Group counseling mentally retarded adolescents. Mental Retardation, 1967, 5(3), 13-16.

A School District # 25, Pocatello, Idaho. On the Job Training Program: Educable Mentally Retarded, Final Report, January, 1968.

A Secretary's Committee on Mental Retardation. Mental Retardation Activities of the U. S. Department of Health, Education and Welfare. Washington, D.C.: U.S. Government Printing Office, January, 1968.

A _____. Mental Retardation Activities of the U. S. Department of Health, Education and Welfare. Washington, D.C.: U.S. Government Printing Office, January, 1969.

A Segal, Arthur. Some observations about mentally retardéd adolescents. Children, 1967, 14(6), 233-237.

A Shulman, Lee S., Ph.D. The Vocational Development of Mentally Handicapped Adolescents: An Experimental and Longitudinal Study. Chicago and E. Lansing: Jewish Vocational Service of Chicago in collaboration with Michigan State University, 1967.

Smith, Bryan. On-Going Program Evaluation, Working Paper No. 29. Eugene, Oregon: Rehabilitation Research and Training Center in Mental Retardation, University of Oregon, June, 1969.

R,A Song, A.Y. and R.H. Song. Prediction of job efficiency of institutionalized retardates in the community. American Journal of Mental Deficiency, January, 1969, 73(4), 567-571.

R,A Spicker, Howard H. Research implications: Selected factors influencing learning and retention abilities of the mentally retarded. Education and Training of the Mentally Retarded, 1966, 1(2), 92-94.

R,A Spradlin, Joseph E., Frederic L. Giradeau and Henry Corte. Social and communication behavior of retarded adolescents in laboratory situations. American Journal of Mental Deficiency, November, 1967, 72(3), 472-481.

A Sternlicht, M. Psychotherapeutic procedures with the retarded. In Ellis, Norman R. (Ed.) International Review of Research in Mental Retardation. New York: Academic Press, 1966, 279-349.

A Sutton, Jack. Determination of the world of work for the mentally retarded. In Ayers, George E. (Ed.) New Directions in Habilitating the Mentally Retarded. Elwyn, Pennsylvania: Elwyn Institute Print Shop, December, 1967, 1-20.

R,A Tobias, Jack. Evaluation of vocational potential of mentally retarded young adults, The Training School Bulletin, February, 1960, 56(4), 122-135.

A U.S Department of Health, Education and Welfare, Social and Rehabilitation Service, Rehabilitation Service Administration. So You Are Going to Supervise a Mentally Retarded Employee. Washington, D.C.: U.S. Government Printing Office, N.D.

A _____, Public Health Service. Research Grants Index, Fiscal Year 1968, Vol. I & II. Bethesda, Maryland: National Institutes of Health, Division of Research Grants, 1968 (available from the U.S. Government Printing Office as Public Health Service Publication No. 925).

A _____, Mental Retardation Publications of the Department of Health, Education and Welfare. Washington, D.C.: U.S. Government Printing Office, January, 1969.

R,A White, Owen R. The Analysis and Programming of Vocational Behavior, Working Paper No. 17. Eugene, Oregon: Rehabilitation and Research Training Center in Mental Retardation, University of Oregon, August, 1968.

A Winchell, W.G. and W.R. Phelps. Out of the Shadows: A Program of Evaluation and Prevocational Training for Mentally Retarded Young Adult Females. Charleston, West Virginia: State Board of Vocational Education, June, 1965.

Younie, William J., Ed.D. Developing Instructional materials for vocational education of the retarded. In Ayers, George E. (Ed) New Directions in Habilitating the Mentally Retarded. Elwyn, Pennsylvania: Elwyn Institute Print Shop, December, 1967, 67-72.

A Zigler, Edward. An overview of research in learning, motivation and perception. Exceptional Children, May, 1962, 28.

APPENDIX: A

WARC Project: Job Analysis of Household Tasks
for the Mentally Retarded

CURATIVE WORKSHOP OF MILWAUKEE
June 1969

Job Task Description: No.1
Kitchen: Oven Cleaning

Materials Needed: lye oven cleaning solution, rubber gloves, accompanying brush

Procedure:
1. Be sure all burners are turned off
2. open oven door
3. remove any utensils that may be within, put them in assigned place
4. remove oven shelves, including bottom one if possible
5. remove broiler shelves if below oven
6. put shelves in assigned place while cleaning
7. put on rubber gloves
8. dip brush in solution
9. begin in back of oven, cleaning back wall
10. clean roof of oven
11. clean sides of oven, including oven door
12. scrub sides of broiler section
13. scrub bottom of broiler section if it cannot be removed
14. do contents of oven: get shelves from assigned place
15. clean shelves one by one in the sink
16. have place to put shelves to dry after they are cleaned
17. replace cap of oven cleaner
18. if necessary, wipe insides of oven to prepare for replacement of shelves
19. replace broiler shelves
20. replace oven shelves from bottom up
21. replace utensils if oven is used for storage
22. close oven door
23. remove rubber gloves
24. put gloves away or to dry
25. put oven cleaner away

Note Well: determine amount of cleaning done by each dip of brush, e.g., three long swipes with brush--keep amount between dips uniform

Use of safety glasses is urged.

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Research Department
August 1969

SAFETY SKILLS TO BE TAUGHT IN CONJUNCTION WITH JOB TASK DESCRIPTION #1 - OVEN CLEANING

1. Individual should be taught reasons for checking oven burners carefully to see that they are completely turned off.

   a. (Gas or Electric Stove): Individual must know not to clean oven immediately after it has been used for baking or burners have been used for cooking. Oven must be cool to avoid danger of burning oneself.

   b. (Gas Stove): Individual must know that if dials are slightly turned on and there is no flame, that gas will enter the air.

2. (Gas Stove): Teach awareness of oven gas odor and what to do about it.

   a. First, check oven dials to see that they are completely turned off.

   b. Open windows to enable fresh air to enter.

   c. If smell of odor still persists, to seek the aid of an adult to check on the matter.

   d. To never light a match near oven when gas odor is present.

3. (Electric Stove): Teach awareness of safeguards in working with an electrical appliance.

   a. To know that electrical cord or outlet should not come in contact with liquids of any kind.

   b. To know that one's hands should be completely dry if cord is pulled from socket, and that fingers should not be placed in socket openings to prevent danger of shock.

4. (Gas and Electric Stoves): Avoid getting flammable materials near heat.

   a. Individual must be taught that most household sprays and cleaning fluids are highly combustible and should be kept far away from heat.

   b. Individual should know not to place such sprays or liquids near or on top of stove.

5. Knowledge of safeguarding oneself from dangerous liquids and sprays.

   a. Wearing of rubber gloves when using oven cleaning solution (lye).

b. Washing gloves before removing them from hands and putting them away.

c. To avoid getting dangerous solutions near skin and particularly, eyes, ears, and mouth.

d. Wearing of safety glasses while individual is learning task to grasp the understanding that the oven cleaning solution is especially dangerous to the eyes.

6. Extreme precaution in using liquids and sprays so that they may not injure others and damage property.

a. When using spray can solutions, to make certain that others are not in the vicinity of the spray.

b. To try to avoid spilling strong chemical agents so that personal contact will be eliminated and furniture, appliances, etc. will not be damaged.

7. Knowledge of properly storing cleaning solution after it has been used.

8. To take precautions in moving sections of stove for cleaning so that they will not fall on oneself or mar floors or furniture.

9. (Gas Stove): Once stove is clean, to turn on burners to make certain they are working.

10. (Electric Stove): Once stove is clean, to carefully insert cord (if it has been pulled) into socket, making certain that it will come in contact with nothing wet.

The domestic trainee must be taught the above safety skills in conjunction with Job Task Description #1. One skill must be taught at a time and in conjunction with the corresponding step in Job Task #1 (where feasible). For example, safety skill #1 should be taught in conjunction with Job Task #1 for oven cleaning. These skills should be demonstrated (where possible) and explained in concrete terms so that she will thoroughly comprehend the importance and meaning of safety in addition to mastery of the task.

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CURATIVE WORKSHOP OF MILWAUKEE
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Job Task Description: No. 2
Kitchen: cleaning top of stove

materials needed: cleaning solution, cleaning rag

Procedure:
1. be sure all burners are turned off
2. remove utensils from top of stove, put them in assigned place
3. remove what can be removed from each individual burner, put in an assigned place for later cleaning
4. wet rag with cleaning solution
5. wipe top of stove, scrubbing hardened food as necessary
6. re-wet rag
7. wipe each burner as to what cannot be removed
8. re-wet rag after each burner
9. wipe back section of stove
10. re-wet rag
11. wipe side of stove
12. re-wet rag
13. wipe other side of stove
14. re-wet rag
15. clean around dials for turning on, scrubbing hardened food as needed
16. re-wet rag
17. clean oven door on outside
18. re-wet rag
19. clean broiler door
20. put rag in sink
21. pile burner parts in sink, wash them one by one, either as dishes or with rag already used
22. place burner parts in drainer to dry, or dry them with a rag
23. replace lid of cleaner or throw out detergent water as applicable
24. replace each burner completely before beginning on another one, all in the same order
25. rinse out rag, hang in appropriate place
26. replace utensils as called for on top of stove
27. put cleaner away

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SAFETY SKILLS TO BE TAUGHT IN CONJUNCTION WITH JOB TASK DESCRIPTION #2 - CLEANING TOP OF OVEN

If simple detergent solution is used, one must have knowledge and understanding of the following safety skills associated with Job Task Description #1: Nos. 1, 2, 3, 7, 8, 9, and 10.

Also note that Safety Skill #7 for Job Task Description #2 includes properly disposing of detergent water and placing all materials used in cleaning oven in their designated places.

The domestic trainee must be taught the above safety skills in conjunction with Job Task Description #2 - cleaning the top of the stove. One skill must be taught at a time and in conjunction with the corresponding step in Job Task #2. For example, safety skill #3 should be taught after Step #1 in the Job Description. These skills should be demonstrated (where possible) and explained to the trainee in simple and concrete terms so that she will thoroughly comprehend the importance and meaning of safety in addition to mastery of the task.

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for the Mentally Retarded

CURATIVE WORKSHOP OF MILWAUKEE
June 1969

Job Task Description: no. 3
Kitchen: Defrosting Refrigerator

Materials Needed: rag, bucket, detergent, pan for drip, maybe rubber gloves, depending on strength of detergent

Procedure:
1. turn refrigerator off, if possible--perhaps while accomplishing another task
2. open door
3. remove contents, beginning with top, including contents of freezer and anything on top of refrigerator
4. carry contents to stay in assigned place while defrosting and cleaning
5. remove shelves if possible, and drawers
6. take shelves and drawers to assigned place
7. get pan
8. open freezer door
9. fill pan with hot water, carefully watching amount to prevent spills
10. place pan in freezer
11. close freezer door
12. put powder or detergent in bucket, fill with water
13. bring bucket over to refrigerator
14. open freezer door to check on temperature of water in pan--if steam no longer rising, could be signal to replace water with new hot water
15. repeat pan-filling operation
16. close freezer door
17. wet rag in bucket
18. begin with top, clean back wall of regrigerator
19. re-wet rag (wring out)
20. clean one side wall
21. re-wet rag
22. clean other wall of refrigerator
23. place rag in bucket
24. open freezer door
25. remove pan of water, put in sink
26. wipe any excess moisture from freezer as necessary
27. repeat pan-filling operation
28. close freezer door
29. take up rag and clean insiee of refrigerator door
30. close door
31. re-wet rag
32. clean top of refrigerator
33. re-wet rag
34. clean one side of refrigerator
35. re-wet rag
36. clean other out side of refrigerator
37. re-wet rag
38. clean front of refrigerator door, taking special care around handle

Job Task Description: No.3 (cont.)

Procedure:
39. put rag in bucket
40. open freezer door
41. repeat fan-filling operation (removal, wiping away, refilling)
42. close freezer door
43. wash shelves and drawers in sink as needed, perhaps could just wipe them
44. open freezer door
45. repeat pan-filling procedure if needed
46. close freezer door
47. replace refrigerator shelves one by one
48. replace contents of shelves, taking care that not too much is attempted in one trip
49. open freezer door
50. repeat pan-filling procedure as needed, wipe away excess accumulated moisture
51. close freezer door
52. replace contents of produce drawers
53. replace drawers in refrigerator one by one
54. replace contents of door if necessary
55. open freezer door
56. remove pan, place in sink
57. return to freezer and remove excess pieces of ice and water --if things are still too frozen at this point give up
58. wipe freezer clean
59. replace contents of freezer
60. close freezer door, close refrigerator
61. empty bucket, rinse out rag and put utensils away
62. wash out defrosting pan

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SAFETY SKILLS TO BE TAUGHT IN CONJUNCTION WITH JOB TASK DESCRIPTION #3 - DEFROSTING REFRIGERATOR

1. To grasp food items, containers, etc. in refrigerator firmly when removing them to designated place so as not to spill food or break containers.

2. To know how to clean up spilled foods, liquids, or broken glass if something is dropped accidentally so as not to injure oneself or others.

3. To know that one shouldn't attempt to carry more than one can handle when removing items from refrigerator.

4. To place food items and containers in designated area securely so that they will not fall off of table or counter-top.

5. To use caution in removing shelves and replacing them so as not to injure oneself or mar refrigerator.

6. To be careful in replacing food and containers in proper place of refrigerator to prevent accidents.

7. (Self-Defrosting Refrigerator): If scraper is needed to scrape ice from freezer, to handle implement properly so as not to cut oneself.

8. To replace materials used in defrosting refrigerator so they are not in the open.

The domestic trainee must be taught the above safety skills in conjunction with Job Task Description #3. One skill must be taught at a time and in conjunction with the corresponding step in Job Task #3. For example, safety skill #1 should be taught in conjunction with skill #3 in the Job Task Description, for defrosting the refrigerator. These skills should be demonstrated (where possible) and explained to the trainee in simple and concrete terms so that she will thoroughly comprehend the importance and meaning of safety in addition to the mastery of the task.

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Job Task Description: No. 4
Kitchen: washing dishes

Materials needed: sink or dishpan, with counter space adjoining, detergent, sponge or dishcloth, perhaps a scouring pad

Procedure:
1. stack dishes on table, noting balance
2. clear dishes from table to sink, using a tray if possible and taking care not to overload the tray
3. rinse dishes individually, stack them on one side of counter space next to sink
4. set water at desired temperature, put in stopper (in sink)
5. measure amount of detergent (about a capful)
6. put detergent into water
7. replace detergent cap
8. swish detergent around in water (watch Play) to arouse suds
9. set water to lower pressure and correct tempurature for rinsing
10. begin with glassware, place glasses into water one by one
11. take up sponge or cloth, and one glass
12. wash inside of glass, taking care at bottom corners
13. wash outside of glass, taking care not to drop it
14. rinse soap suds off of glass thoroughly
15. place rinsed glass in appropriate place in dish drainer
16. repeat procedure with each glass
17. check water level here, let some out before going on to next set of dishes
18. wash plates next, having stacked them in rinsing (note that cleanliness of plates is often a matter of feeling for bumps, if worker can perceive these)
19. wash them one at a time, top then bottom
20. rinse thoroughly
21. place in appropriate section of dish drainer
22. check water level here
23. check water level here
24. put silverware into water to soak, taking care neither to throw it in in toto nor to put pieces in only one by one
25. then take smaller dishes such as cups, saucers, small plates, dessert-type dishes, one by one and put them into sink or dish tub
26. wash smaller dishes one by one, rinse, and place in drainer: saucers first, can go in similar part of drainer as plates; small dishes, which can be placed alongside or up against plates; cups, which can be fit over smaller dishes. Glasses should be outside drainer.
27. check water level
28. wash silverware piece by piece to assure cleanliness
29. rinse silverware: can rinse it all at once after it is all washed

Job Task Description: No. 4 (cont.)
Kitchen: washing dishes

Procedure:
30. get new dishwater after the dishes are done, but before doing hard cleaning like pots and pans, if they will be called upon to do them at all--remove sponge or dishrag from water, put near sink
31. remove stopper from sink to allow all water to leave, turn off water
32. bring pots and pans to sink from assigned place
33. rinse them, one by one
34. place on counter space next to sink
35. turn water to pressure and temperature desired
36. place stopper in sink
37. measure detergent in cap
38. put detergent into water
39. swish detergent and water to make suds
40. take pans one at a time, scrub with sponge or scouring pad--again, smoothness will determine cleanliness
41. rinse pot
42. place in dish drainer or on available counter space to dry
43. repeat procedure until all pots and pans and associated utensils are done
44. rinse out sponge, scouring pad, or rag
45. remove stopper from sink
46. allow water to all drain out
47. rinse sink of soap suds of necessary
48. turn faucets off

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VISUAL AND AUDITORY SKILLS RELATED TO JOB TASK DESCRIPTION NO. 4

I. VISUAL DISCRIMINATION

A. Ability to note likenesses and differences in sizes and shapes of dinnerware, silverware, rags, towels and sponges.
B. Ability to sort out and match like dinnerware, such as juice glasses from drinking glasses; saucers from dinnerplates, etc.
C. Ability to sort out and match like silverware and cutlery.
D. Ability to note differences in dish cloths, drying towels, paper toweling, cleansing pads and sponges.
E. Ability to distinguish the balance of objects by observing stacked dishes, etc. on table
F. Ability to note adequate water level in which to place dishes for washing.
G. Ability to distinguish between sufficient amount of suds when washing dishes.
H. Ability to recognize when dishes are thoroughly clean and rinsed.

II. VISUAL MEMORY

A. Ability to remember that dishes must be stacked and balanced.
B. Ability to recall manner of sorting dishes from one another categorically (glassware, silverware, dinnerware, cutlery,etc)
C. Ability to recall where detergent, dish cloths, towels, sponges, scouring pads, etc. are kept.
D. Ability to remember to watch water level at which dishes should be washed.
E. Ability to remember and associate type of washing implement with utensil; for example, the use of a rag or sponge with dishes; and the use of a scouring pad with pots and pans.
F. Ability to distinguish between hot and cold faucets.
G. Ability to recall when faucets should be turned on and off.
H. To recall when stopper should be plugged in the sink or removed.

III. AUDITORY DISCRIMINATION

A. Ability to recognize tonal qualities and different directions.
   1. Ability to distinguish one type of direction from another.
   2. Ability to denote and comprehend when a direction is given.
B. Comprehension of Word Directions
B. 1. Ability to comprehend one word or simple word phrase directions, such as, "Mary, wash dishes;" "Dishes here;" (pointing and demonstrating manner of placing dishes); "Cold water" (pointing to faucet tap), etc.
   2. Ability to comprehend simple sentence directions; for example, "Mary, will you please wash the dishes;" "Turn on the hot water;" "Get the soap for the dishes;" etc.
   3. Ability to comprehend minimal auditory directions; that is, person must rely on physical gestures (demonstration) of supervisor to indicate what must be done (even though task is sufficiently mastered by the individual).

IV. AUDITORY MEMORY

A. The ability to recall specific work directions associated with washing dishes.
   1. The ability to follow one direction, such as "Mary, put the dishes on the table."
   2. The ability to follow two or more directions in sequence: example, "Put the dishes on the table;" "Put the glasses together;" "Put the cups together;" etc.
   3. The ability to recall and repeat a word or direction. For example,
      a. The supervisor will demonstrate the first step in washing dishes, and the trainee will be asked to repeat the step which should follow.
      b. (Or) Have the trainee repeat a direction at the same time she is doing a particular step in the task.

B. The ability to identify sounds related to dinnerware (kitchen environment).
   1. To be able to detect subtle differences in sounds of clanging pans, rattling dishes, rubbing silverware, etc.

   **Importance for above awareness: Should particular items start to fall off of stove, table or counter, one would be able to detect where sound is coming from, and prevent items from falling and breaking.

   2. Ability to detect sounds associated with broken glasses or dishes (Particularly important for safety of individual and others). Also, being able to note where the source is of particular sounds in the environment, so that one doesn't injure oneself. (**Note: pages on safety for protection of individual).

V. AUDITORY-VISUAL ASSOCIATION

A. Ability to associate verbal directions with the visual task of washing dishes.
   1. For example, an individual should wash the glasses (If such a direction is given) and not the silverware.
   2. The ability to associate one or word phrase directions with the visual task.
   3. The ability to associate simple sentence directions with the visual task.

B. Comprehension of Word Directions
   1. The ability to associate one direction with the visual task; for example,
      a. Auditory direction: "Put the dishes on the table."
      b. Auditory-visual association: individual should respond correctly to the auditory direction.
   2. The ability to associate a sequence of directions with the step-by-step method of drying dishes.
      a. auditory directions: "Put the dishes on the table;" "Put the cups together;" "Put the saucers together;" etc.

b. <u>auditory-visual association:</u> completion of sequence of directions successfully.

2. Once the completed task of washing the dishes is successfully mastered, the ability to associate all of the steps in sequence upon minimal auditory direction. For example, supervisor might say, "Mary, wash the dishes." If individual completes all of the steps properly upon this minimal direction, the auditory-visual memory association for the task will be completed.

VI. <u>EYE-HAND COORDINATION</u>

A. Ability to stack dishes on table, noting balance.
B. Ability to remove dishes on table to sink.
C. Ability to measure amount of detergent.
D. Ability to hold implement for detergent securely.
E. Ability to pour detergent in water.
F. Ability to turn on faucets.
G. Ability to note water level in basin or sink.
H. Ability to put stopper in sink if necessary and remove it.
I. Ability to place dishes in appropriate section of drainer. (matching and sorting)
J. Ability to inspect each for cleanliness.
K. Ability to rinse dishes off with water.
L. Ability to use dish cloth for washing dishes.
M. Ability to hold sponge when washing dishes.
N. Ability to use scouring pad for washing pans.
O. Ability to remove dishes from sink to table or indicated cupboard.

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SAFETY SKILLS TO BE TAUGHT IN CONJUNCTION WITH JOB TASK DESCRIPTION # 4 - WASHING DISHES

1. To show individual that unless dishes are stacked properly noting balance, they might fall and break.

2. To aid individual in awareness of sharp implements (cutlery, ice picks, etc.) and proper handling so as not to injure oneself or others. (To teach extreme precaution when washing sharp implements and manner of handling them)

3. To show individual how to wipe up liquids or food that has spilled on the floor, table, etc. and type of materials to use (paper toweling, old rag, sponge, etc.)

4. To show individual how to pick up broken glassware or dishes, without injuring oneself (sweeping broken pieces into dust pan and not picking them up with one's hands.)

5. To know that sink should not be left unclean for health and sanitary purposes.

6. To replace materials used in washing dishes in designated areas:

   a. To know that dish rag or sponge must be rinsed thoroughly and placed in proper spot to dry.

   b. To know that used scouring pads should be thrown away.

   c. To put away unused detergent, scouring pads, brushes, etc. in proper places.

The domestic trainee must be taught the above safety skills in conjunction with Job Task Description #4. One skill must be taught at a time and in conjunction with the corresponding step in Job Task #4. For example, safety skill #2 should be taught in conjunction with steps #28 and 29. in the Job Task for washing dishes. These skills should be demonstrated (where possible) and explained to the trainee in simple and concrete terms so that she will thoroughly comprehend the importance and meaning of safety in addition to mastery of the task.

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Job Task Description: No. 5
Kitchen: drying dishes

Materials Needed: one dish drainer with dishes, dish towel for drying, space for stacking

Procedure:
1. obtain dish towel from proper place
2. pick up dish from top of drainer
3. wipe dry, determining dryness by feel
4. take dried dish to counter space for stacking
5. repeat procedure for each dish and piece of silverware, taking care in where dish is taken from within drainer--it might be a good idea to start with silverware
6. also take care of stacking, so that one pile does not get so balanced that it falls over
7. when all dishes are dried and on counter space, put towel away in proper place
8. put dishes into cabinets

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VISUAL AND AUDITORY SKILLS RELATED TO JOB TASK DESCRIPTION #5

I. VISUAL DISCRIMINATION

A. Ability to note what a dish towel is in comparison to other types of towels or cloths, such as bathroom towels, dusting rags, dish rags, etc.
B. Ability to note the sorting of dishes in drainer or on counter top after washing procedure. (Separation of glasses, cups, dishes, silverware, etc.)
C. Ability to note the balance of dishes that are restacked on table.
D. Ability to note that dishes are kept in a sorted fashion when placed back on table.
E. Ability to note that dishes should be placed on clean-dry countertop or table.

II. VISUAL MEMORY

A. Recall location of dish towels in kitchen and distinction between other types of towels and cloths.
B. To recall that once dishes are dry that they must be placed back on table.
C. Recall that dishes should be restacked and sorted to insure proper balance.
D. To recall that designated place for dried dishes must be clean and dry.

III. AUDITORY DISCRIMINATION

A. Ability to recognize that directions given are related to drying dishes. (Vocabulary emphasis.)
B. Ability to denote and comprehend when a direction is given.
C. Comprehension of Word Directions
   1. Ability to comprehend one word or simple word phrase directions, such as "Dry Dishes;" "Use Towel." (Supervisor indicating appropriate demonstrations.)
   2. Ability to comprehend simple sentence directions; for example, "Susan, please dry the dishes, now;" "Take them out of the sink."
   3. Ability to comprehend minimal auditory directions; that is person must rely on physical gestures (demonstration) of supervisor to indicate step procedure, even though task may be sufficiently mastered by individual.

IV. AUDITORY MEMORY

A. The ability to recall specific work directions associated with drying dishes.
   1. The ability to follow one direction, such as "Mary, put the dry dishes on the table."

2. The ability to follow two or more directions in sequence: for example, "Put the dry dishes here;" "Look to see if the table is dry."
3. The ability to recall and repeat a word direction. For example,
a. The supervisor may demonstrate one or more steps in drying dishes, and have the trainee tell her the subsequent step in the procedure.
b. (Or) Have the trainee repeat (verbally) a step in the procedure at the same time she is doing the particular task.

B. The ability to identify sounds related to dinnerware (kitchen environment) (For reasons stated under subheading B., Auditory Memory; Job Task #4; Washing Dishes.)

V. AUDITORY-VISUAL ASSOCIATION

A. Ability to associate verbal directions with the visual task of drying dishes.
1. For example, an individual should dry the dinner plates (if such a direction is given), and not the glasses.
2. The ability to associate one or word phrase directions with the visual task.
3. The ability to associate simple sentence directions with the visual task.

B. Manner of Responding to One or More Directions
1. The ability to associate one direction with visual task; for example,
a. auditory direction: "Susan, dry the glasses."
b. visual-auditory association: individual should respond correctly to the auditory direction.
2. The ability to associate a sequence of directions with the step-by-step procedure for drying dishes. For example,
a. auditory directions: "Susan, dry the glasses first." "Then put them over here." "Dry the dishes next."
b. auditory-visual association: completion of sequence of directions correctly.
3. Once the completed task of drying dishes is successfully mastered, the ability to comprehend all of the steps in sequence upon minimal auditory direction. For example, supervisor may say: "Susan, dry the dishes and place them on the table." If individual completes all of the steps properly upon this minimal direction, the auditory-visual memory for the task will be complete.

VI. EYE-HAND COORDINATION

A. The ability to hold dishes securely without dropping them.
B. The ability to wipe dishes so that they are thoroughly dry.
C. The ability to insure proper handling of sharp instruments, such as cutlery, ice picks, etc.
D. The ability to carry dishes carefully over to the table or countertop to be placed.
E. The ability to stack dishes carefully, insuring proper balance.
F. The ability to sort dishes, according to categories of pots and pans; silverware, glasses, plates, etc.

G. The ability to put wet towel in designated area to dry.
H. The ability to note when more than one drying towel is needed.

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SAFETY SKILLS TO BE TAUGHT IN CONJUNCTION WITH JOB TASK DESCRIPTION # 5 - DRYING DISHES

1. To show individual that unless dishes are stacked properly in cabinets, noting balance, that they might fall and break.

2. To use extreme precaution when drying sharp implements such as cutlery, ice picks, etc., so as not to injure oneself or others.

3. To know how to pick up broken dishes or glassware (sweeping pieces into dust pan and not handling them.)

4. To make certain that dishes are not placed near edge of cabinet shelves where they might fall.

5. To fasten cabinet doors securely to prevent accidents, after dishware is dried.

6. To put wet dish towel (s) in proper place to dry.

The domestic trainee must be taught the above safety skills in conjunction with Job Task Description #5. One skill must be taught at a time and in conjunction with the corresponding step in Job Task #5. For example, safety skill #4 should be taught in conjunction with step #6 in the Job Task for drying dishes. These skills should be demonstrated (where possible) and explained to the trainee in simple and concrete terms so that she will thoroughly comprehend the importance and meaning of safety in addition to mastery of the task.

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Job Task Description: No. 6
Cleaning Cupborrds

Materials Needed: bucket, detergent,cleaning cloth, drying cloth, ladder

Procedure:
1. have nearby place for putting contents while cleaning and put them there
2. take one cabinet or section at a time
3. open doors
4. set up stepladder as needed
5. begin with upper shelves (pattern to continue throughout operation)
6. remove contents, being careful to carry no more than will be safe to handle
7. wet rag in detergent solution and begin at top of cabinet, wiping roof, sides, and shelf itself
8. re-wet rag
9. repeat procedure for next shelf, until all shelves are finished
10. re-wet rag
11. wash insides of cabinet doors
12. close doors
13. re-wet rag
14. wash outsides of cabinet, with rag re-wetting as needed (uniformly)
15. open doors, set wash rag down in convenient place
16. either let cabinet dry, or wipe with dry cloth in same order as has been washed
17. beginning with top shelves, replace contents of cabinet
18. close doors when finished
19. change water, if more cabinets are to be done, or throw away dirty water
20. replace bucket, rag, and step ladder in appropriate places

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SAFETY SKILLS TO BE TAUGHT IN CONJUNCTION WITH JOB TASK DESCRIPTION # 6 - CLEANING CUPBOARDS

1. Individual should know how to set up step ladder securely and manner of climbing on it so that one doesn't fall. (The first step to be taught before teaching job task of cleaning cupboards).

2. To grasp objects to be removed from cabinets firmly and not to carry more than one can handle.

3. To place objects in secure place, stacking them where possible, noting balance.

4. To know how to pick up broken pieces in the event that something accidentally has fallen. (Sweep up pieces into dust pan and not to handle them with one's hands.)

5. To replace items after cupboards have been washed in the same order, and to make certain they will not fall.

6. To put step ladder and materials used for cleaning cupboards in appropriate places to prevent injury to oneself and others.

The domestic trainee must be taught all of the safety skills in conjunction with Job Task Description #6 for cleaning cupboards. One skill must be taught at a time and in conjunction with the corresponding step in Job Task #6. For example, safety skill #1 should be taught before step #1 for Job Task #6. These skills should be demonstrated (where possible) and explained in simple and concrete terms so that she will thoroughly comprehend the importance and meaning of safety in the task for cleaning cupboards.

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Job Task Description: No. 7
Dusting furniture, picture frames, Windowsills and Woodwork

Materials Needed: Dust Cloth, not feather duster

Procedure:
1. obtain dust cloth from its proper place.
2. Begin with one piece of furniture.
3. If there are objects to be dusted on the piece of furniture(table, desk, bookcase, etc.) remove one piece at a time, as follows:

   a. Dust one object thoroughly.
   b. Dust place from which object was taken.
   c. Immediately put object back in its proper place.
   d. Go on to the next object, repeating same procedure.
   e. Dust any spots missed on top of table, desk, etc.

3. Finish dusting sides, then legs, using sweeping motions.
4. Make sure that crevices for collecting dust are noted and given special attention.
5. Move to next piece of furniture, repeating procedure, until one has gone completely around the room.
6. While going around room to dust furniture, have individual note furniture, which is made of cloth and wood and to dust wood sections.
7. Dust picture frames:

   a. Hold frame steadily with one hand.
   b. Dust lightly on top of picture frame and sides with other hand.
   c. If picture has glass frame, dust the glass.
   d. If picture does not have glass in front of it, refrain from dusting, and do only top and sides.

8. Move about room in circular manner, going from one picture to another and repeat procedure for step 7.
9. Begin with one window and dust windowsill and woodwork, paying attention to crevices.
10. Move about room in circular manner, until all windowsills and woodwork are finished.

***Note Step 3: Instead of removing all objects from table, bookcase, etc. to dust top, each individual piece is dusted and immediately put back in its proper place. This is to help the individual who has problems with visual memory and discrimination (remembering placement of objects and exact arrangement).

SAFETY SKILLS TO BE TAUGHT IN CONJUNCTION WITH JOB TASK DESCRIPTION #7 - DUSTING FURNITURE

1. To grasp small objects firmly when dusting so that they won't fall and break.

2. To avoid bumping into tables or other pieces of furniture with small objects on them.

3. To know how to pick up broken objects, such as a glass ashtray, so that one doesn't injure oneself or others.

4. To move only light weight pieces of furniture when dusting so that one doesn't strain herself. (Proper way of bending down to lift objects to avoid back injury.)

5. To seek the assistance of an adult when wanting to move a heavier piece of furniture, such as a sofa, in order to dust a certain area.

6. To be extremely careful when dusting pictures or wall hangings so that they won't fall and break or cause injury to oneself and others.

7. To make certain that any furniture that has been moved is put back in its proper place, so one doesn't trip over or bump into objects.

The domestic trainee must be taught the above safety skills in conjunction with Job Task Description #7. One skill must be taught at a time and in conjunction with the corresponding step in Job Task #7. For example, safety skill #1 should be taught in conjunction with step #3 in the job task for dusting furniture. These skills should be demonstrated (where possible) and explained to the trainee in simple sentences and concrete terms so that she will thoroughly comprehend the importance and meaning of safety in addition to mastery of the task.

In Step #3, the housewife could accidentally (implied as such to the trainee) break something which she does not need, and teach the proper way of picking up the broken pieces to avoid injury. Also, if liquids are spilled, such as water from a vase, one should be taught the manner of wiping them up.

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Job Task Description: No. 8
Washing Floors

Materials Needed: mop, bucket, detergent, rubber gloves (depending on type of mop used)

Procedure:
1. move what furniture can be moved, especially out of the room
2. collect utensils needed to clean
3. put powder or detergent in bucket
4. fill bucket with proper water
5. begin in corner farthest from door of exit
6. go over each section of floor twice, i.e., once back and once forth over same part
7. depending on degree of floor's dirtiness, wring out mop after set number of goings back and forth
8. take care that mop is not so wet as to leave floor sopping--part of training will be in perception of how damp mop should be for floor
9. after floor is finished, dry it with rag if this is called for
10. empty bucket, clean out mop, put utensils away or in another place if they are to be used again
11. move furniture back into room, in same order as moved out unless instructed otherwise

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SAFETY SKILLS TO BE TAUGHT IN CONJUNCTION WITH JOB TASK DESCRIPTION # 8 - WASHING FLOORS

1. In moving furniture, individual must know how to bend and lift objects so as not to strain oneself.

2. If heavy pieces of furniture must be moved, to know that assistance is needed and to seek the aid of an adult.

3. To make certain that too much water is not put on the floor when washing so one doesn't slip on a pool of water and fall.

4. To replace all furniture that has been moved and to seek assistance when needed.

5. To return materials used in washing floors in appropriate places, so that one doesn't trip over bucket, mop, detergent, etc.

The domestic trainee must be taught all of the safety skills in conjunction with Job Task Description #8. One skill must be taught at a time and in conjunction with the corresponding step in Job Task #8. For example, safety skill #1 and #2 should be taught in conjunction with skill #1 in Job Task #8. These skills should be demonstrated (where possible) and explained in simple and concrete terms so that she will thoroughly comprehend the importance and meaning of safety in the job task for washing floors.

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Job Task Description: no. 9
Shaking Rugs

Materials Needed: dirty rugs

Procedure:
1. Collect all rugs that need to be shaken.
2. Take rugs to an assigned area outdoors.
3. Pick up rug at narrow end.
4. Shake rug vigorously, using an up and down motion.
5. Repeat shaking procedure several times until no more dirt or dust flies off.
6. Place clean rug in assigned area, away from where rugs are being shaken.
7. Take another rug, repeat entire procedure until all rugs have been shaken.
8. After all rugs are shaken take them and put them back in their assigned places throughout the house.

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SAFETY SKILLS TO BE TAUGHT IN CONJUNCTION WITH JOB TASK DESCRIPTION #9 - SHAKING RUGS

1. To know that one shouldn't collect more rugs than can be handled.

2. To be particularly observant of proper place for shaking out rugs so that dirt and dust isn't distributed where it shouldn't be.

3. In replacing rugs in their assigned places on the floor, to make certain that they are lying properly so that one doesn't trip over them.

The domestic trainee must be taught all of the safety skills in conjunction with Job Task Description #9. One skill must be taught at a time and in conjunction with the corresponding step in Job Task #9. For example, safety skill #1 should be taught in conjunction with skill #1 in Job Task #9. These skills should be demonstrated (where possible) and explained in simple and concrete terms so that she will thoroughly comprehend the importance and meaning of safety in the job task for shaking rugs.

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Job Task Description: No. 10
Vacuuming Carpet

Materials Needed: vacuum cleaner, utensils for cleaning carpet, floor; small brush attachment for corners and woodwork

Procedure:

1. Get vacuum cleaner and instruments from assigned place.
2. Check bag and empty or replace if necessary.
3. Plug the vacuum cleaner plug into the socket. (Use an extension cord if necessary for extra length)
4. Attach carpet instrument to vacuum cleaner.
5. If there are any small rugs scattered in the room, do these first.
6. Turn all the rugs to the wrong side.
7. Turn vacuum cleaner on.
8. Using a slow back and forth pushing motion with the vacuum cleaning instrument, clean each rug.
9. Turn each rug over to the right side.
10. Again using a back and forth pushing motion with the vacuum cleaner, clean the right side of each rug.
11. After the small rugs have been vacuumed, remove them to an assigned place in another room.
12. Move what furniture can or should be moved to the center of the room.
13. Start in the far corner of the room to vacuum the carpet.
14. Use a slow back and forth motion with the vacuum cleaner to clean the carpet; take care to cover whole area, more than once if necessary.
15. Clean only a small area at a time and then move on to the next.
16. After the first section has been cleaned put the furniture back where it belongs.
17. If there is a chair or couch which has not or cannot be moved, vacuum underneath it if possible, pushing the instrument back and forth slowly and repeatedly.
18. Go on to another, adjacent section of the room, first moving furniture that can be moved to the center of the room, which has not been cleaned.
19. Vacuum under any furniture which has not been moved, using a slow back and forth pushing motion repeatedly to clean.
20. Repeat vacuuming procedure for the rest of the section.
21. Replace furniture, move on to next section.
22. Repeat entire operation for each section of the room until all except the center section where there is no furniture has been cleaned.
23. Clean the center of the room where there is no furniture after all other sections have been cleaned.
24. Push the instrument back and forth slowly over a small area at a time.
25. Clean carefully in the doorways last, using a slow pushing back and forth motion.
26. If there is an area of floor which is not carpeted, this should be done next.

Job Task Description no. 10 (cont.)

Procedure:
27. Remove carpet instruments.
28. Place floor instrument on the vacuum cleaner. (If the areas are small, use the small brush instrument instead of the floor instrument.)
29. Start in the corner with the brush and move the brush along the floor slowly until all areas have been cleaned.
30. If there is a side board or wall board to be vacuumed, use the brush on these areas.
31. Push the brush along the side board with a slow motion.
32. Unplug the vacuum cleaner and replace the cord.
33. Remove all instruments and vacuum cleaner from the room.
34. Check the bag and empty or replace if necessary.
35. Replace cleaner and instruments in assigned place.
36. Go and get scatter rugs and put them back in the room in their proper places.

SAFETY SKILLS TO BE TAUGHT IN CONJUNCTION WITH JOB TASK DESCRIPTION #10 - VACUUMING CARPET

1. To know that vacuum cleaner bag should be emptied if full to avoid bag from loosening or dust being strewn about the floor.

2. To lift and carry vacuum cleaner properly in order to avoid straining oneself, dropping it accidentally or bumping into walls or other objects.

3. To understand proper way of handling cord and inserting it into electrical socket:

   a. To know that one's hands should be dry and that one should not stand on wet surface when inserting cord into socket.

   b. To know that one shouldn't place fingers in socket openings.

   c. To remove cord from socket properly when vacuuming task is finished. (To avoid jerking cord out of the wall from a distance, but to remove it by going up to the socket and pulling it out of the wall.)

   d. When extension cord is needed, the manner of insetting one piece of cord in order to attach them together.

4. To move only light weight pieces of furniture when wanting to vacuum certain area of the rug:

   a. To know that any objects should be removed from small tables, bookcases, etc. and that tops of tables, bookcases, etc. should be clear when moving furniture.

   b. To know the proper way of bending down to lift objects in order to avoid strain or injury, as well as tipping furniture over.

   c. To seek the assistance of an adult when wanting to move a heavier piece of furniture, such as a sofa, in order to vacuum a certain area.

5. To handle vacuum cleaner carefully when in use so that one doesn't drop it on one's feet or bump into furniture, walls, other persons, etc.

6. To vacuum scatter rugs with fringe carefully so that they don't get sucked into the vacuum cleaner.

7. To store vacuum cleaner and any attachable instruments carefully and in designated place, so that it is not left out in the open where one could trip over it. (To understand that this is for the safety of others as well as oneself.)

CON'T: SAFETY SKILLS TO BE TAUGHT IN CONJUNCTION WITH JOB TASK DESCRIPTION #10 - VACUUMING CARPET

The domestic trainee must be taught all of the safety skills in conjunction with Job Task Description #10. One skill must be taught at a time and in conjunction with the corresponding step in Job Task #10. For example, safety skill #3a should be taught in conjunction with Step #3 for Job Task #10. These skills should be demonstrated (where possible) and explained in simple and concrete terms so that she will thoroughly comprehend the importance and meaning of safety in the utilization of a vacuum cleaner as well as mastering the job task.

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Job Task Description: No. 11
Dusting Floors

Materials Needed: dust mop, spray cleaner to be applied to mop (if desired), newspapers for shaking mop out on, broom, dust pan

Procedure:
1. Shake mop onto a newspaper before using to make sure it's clean. Do this in an assigned area to avoid scattering dust through the house.
2. Fold dust into newspaper carefully and throw away.
3. If there are any small rugs in the room, remove these to an assigned area.
4. Apply spray cleaner to mop as directed. (Repeat as necessary during dusting operation)
5. Starting in the far corner of the room begin dusting the floor.
6. Move the mop along the floor slowly, sweeping the dust and dirt toward the doorway.
7. Go over a small section of the floor at one time, moving the mop carefully and repeatedly forward toward door, lifting it off the floor after each forward stroke.
8. Do not use fast motions with the mop and do not shake it. Just move it forward toward the door over an unclean area, lift, and repeat.
9. Be very careful when dusting under furniture in each section so that no areas are missed. If necessary, move the pieces of furniture and replace them after dusting the area in which they belong.
10. Repeat the dusting procedure for each section of the room, moving from the sections farthest from the door towards the door.
11. When all sections of the room have been dusted, place a newspaper on the floor in an assigned area and carefully shake the dust from the mop. If the floor is extra dusty this procedure may be necessary during the dusting operation.
12. Carefully fold the dust-filled newspaper and throw it away.
13. If there is any dirt or dust remaining on the floor in the doorway which cannot be picked up by means of a dust mop, take the broom and carefully sweep these particles into a dust pan. Empty the dust pan into the trash.
14. Put all materials back into their proper places.
15. Shake the small rugs if necessary, and put them back where they belong.

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SAFETY SKILLS TO BE TAUGHT IN CONJUNCTION WITH JOB TASK DESCRIPTION #11 - DUSTING FLOORS

1. To know that mop shouldn't be shook out anywhere so that dust and dirt are strewn about.

2. To know that once dust is folded in newspaper that it must be disposed of properly. (To make certain that individual knows that newspaper is kept away from heat or flammable materials such as kerosene, gasoline, etc.)

3. To be aware of dangers in using spray cleaner on mop:

   a. To avoid getting spray near eyes, ears, mouth or in the vicinity of others.

   b. To know that most household sprays are highly flammable and should never be placed near heat.

4. To seek the assistance of an adult when wanting to move heavy pieces of furniture in order to dust floors.

5. To know proper manner of lifting light weight objects so that one avoids strain or injury.

6. If small scatter rugs have been removed in order to dust the floors, to observe that they are lying flat so that one cannot trip over them.

7. To make certain that all materials used to dust floors are put back in their assigned places and not left out in the open.

The domestic trainee must be taught all of the safety skills in conjunction with Job Task Description #11, for Dusting Floors. One skill must be taught at a time and in conjunction with the corresponding step in Job Task #11. For example, safety skill #3 should be taught in conjunction with skill #4 in Job Task #11. These skills should be demonstrated (where possible) and explained in simple and concrete terms so that she will thoroughly comprehend the importance and meaning of safety in the job task for dusting floors.

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Job Task Description: No. 12
Changing Beds

Materials Needed: clean pillow case(s), clean sheets (1 contour sheet, one top sheet), blankets, bedspread

Procedure:

1. Remove bedspread and blankets from bed and place in assigned area
2. Remove pillow case from pillow
3. Put pillow with blankets and spread in assigned area
4. Put pillow case on floor beside bed.
5. Remove top sheet, untucking bottom corners
6. Put top sheet on floor beside bed
7. Remove bottom sheet, releasing the sheet from the tucked position at each corner
8. Put bottom sheet and top sheet and pillow case in laundry as assigned
9. If there is a mattress cover on the bed, and it is not tucked into the bed, tuck it under at each corner or otherwise straighten the mattress cover so that is is smooth and in proper position.
10. Take the clean contour sheet and put it on the bed, taking each corner and tucking it around the corners of the bed
11. Determine the proper position of the contour sheet by examining its smoothness on the bed. There should be no wrinkles or lumps in the bed.
12. Take the clean top sheet and position it on the bed so that the top of the sheet is laid straight along the top edge of the bed. The sides of the sheet hanging along the sides of the bed should be the same length and hang evenly.
13. Take the bottom edge of the sheet and tuck it smoothly under the mattress.
14. At each bottom corner of the bed, about one foot from the end of the bed, raise the length of sheet hanging alongside the bed until it touches the top edge of the bed.
15. Tuck the sheet left hanging along the side of the bed, one foot from the end of the bed, smoothly under the mattress.
16. Determine smoothness by examining bed for wrinkles or lumps. There should be none. Remove any wrinkles or lumps if there are any.
17. Do this for the two bottom corners of the bed
18. Take blanket from assigned area and put on bed, using same procedure as for applying bottom sheet.
19. If there is a second blanket repeat procedure, until all blankets are in position on the bed.
20. Take bedspread from assigned place, and put in position on bed.
21. Use same positioning procedure as for top sheet and blankets.
22. Take top edge of bedspread and fold it back about 2 feet.
23. Pull spread up carefully until this fold is about six inches from the top edge of the bed.
24. Take pillow from assigned area; also pillow cases.

Job Task Description: No. 12 (cont.)

Procedure:
25. Put the pillowcase on the pillow, sliding it on one end and pulling it down to the other end.
26. Put pillow in center position at top of bed.
27. Fold bedspread section which is folded back forward and up over the pillow
27. Determine smoothness by examining bed for wrinkles or lumps. There should be none. Remove any wrinkles or lumps if there are any.

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SAFETY SKILLS TO BE TAUGHT IN CONJUNCTION WITH JOB TASK DESCRIPTION #12 - CHANGING BEDS

1. If bed has to be moved slightly in order to change sheets, to know how to move it to avoid strain or injury and to seek the assistance of an adult if it is too heavy.

2. To know that soiled sheets taken off the bed should not be placed on the floor where someone might trip over them.

3. When putting clean sheets on bed, to make certain that they are carried carefully so that they don't drag on the floor (to avoid soiling and possible tripping over them).

4. To know that soiled sheets should be put in the proper place for laundering.

The domestic trainee must be taught all of the safety skills in conjunction with Job Task Description #12 for changing beds. One skill must be taught at a time and in conjunction with the corresponding step in Job Task #12. For example, safety skill #2 should be taught in conjunction with skill #6 in Job Task #12. These skills should be demonstrated (where possible) and explained in simple and concrete terms so that she will thoroughly comprehend the importance and meaning of safety in the job task for changing beds.

APPENDIX: B

(client) _____ (date) _____ (interviewer) _____

WARC PROJECT EVALUATION FORM

Instructions to respondent and interviewer. The correct type of response for items 2c, 2e, 3, 4, and 8 is obvious from the context. For the others please put an X in the correct box. If the respondent has not had a chance to observe the situation or is unsure of his opinion, he should fill in with the "?" mark.

	client self-report	employer's estimate	training supervisor's estimate
1. Evaluation of employee's performance			
a. better than expected			
b. about the same as expected			
c. poorer than expected			
2. Employment readiness			
a. now ready for competitive employment			
b. more training required			
c. number of weeks needed			
d. will never be able to get a competitive job doing housework			
e. at present level of productivity is worth ____¢ an hour			

3. Supervision required (Check A or B or C)	employer's opinion	training supervisor's opinion	teacher's opinion	mother's opinion
a. can work alone once routine is learned.				
b. must be told each time what to do, just before doing it.				
c. requires constant supervision.				

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4. Job Satisfaction	client self-report				employer's opinion				training supervisor's opinion				teacher's opinion				mother's opinion			
	(a1: all; a2: most; a3: some; a4: none.)																			
	a1	a2	a3	a4	a1	a2	a3	a4	a1	a2	a3	a4	a1	a2	a3	a4	a1	a2	a3	a4
a. liked job tasks																				
b. liked job social situation																				
	(a1: always; a2: sometimes; a3: never)																			
	a1	a2	a3		a1	a2	a3		a1	a2	a3		a1	a2	a3		a1	a2	a3	
c. liked employer																				
d. liked training supervisor																				
	(a1: yes; a2: no; a3: ?)																			
	a1	a2	a3		a1	a2	a3		a1	a2	a3		a1	a2	a3		a1	a2	a3	
e. would like to continue on job																				

5. Social Interaction (check one or more)	client self-report	employer's estimate	training supervisor's estimate
a. initiated conversation			
b. responded to conversation			
c. responded appropriately to children			
d. responded appropriately to pets			
e. responded appropriately to other social situations, n.e.c. describe			

6. Motivation (check one or more)	employer's estimate	training supervisor's estimate
a. responded to money as a motivator		
b. responded to attention as a motivator		
c. responded to praise as a motivator		
d. responded to food and drink as a motivator (candy, cookies, cake, soft drinks, etc.)		
e. other--explain under #7		

For clients' self-report on motivation ask client the following series of paired comparisons:

1. Did you like it better when she gave you money or when she listened to what you said? money ____ listened ____

2. Did you like it better when she gave you money or when she said nice things about you? money____ praise ____

3. Did you like it better when she gave you money or when she gave you things to eat or drink? money ____ food/drink ____

4. Did you like it better when she listened to what you said or when she said nice things about you? listened ____ praise ____

5. Did you like it better when she listened to what you said or when she gave you things to eat or drink? listened ____ food/drink _____

6. Did you like it better when she said nice things about you or when she gave you things to eat or drink? praise ____ food/drink _____

7. Additional observations and comments:

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